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SPENCER'S FORMULA OF EVOLUTION.

THE fabric of human knowledge is seemingly composed of many diverse and disparate strands. Yet, in the history of thought, we find that those whose range of ideas has traveled beyond the sphere of every-day necessities, have always, in some form or other, implicitly or explicitly, as an article of faith or a product of reason, upheld the conception of some unity behind this apparent diversity. The tendency has sometimes worked for evil, and attempts to formulate this unity have often impeded rather than assisted the advance of knowledge. Minds obsessed by false, incomplete or inadequate abstractions, are, often impervious to facts really or apparently inconsistent with their particular ideas. In spite of this, the conception commonly known as the unity of nature is one which would appear to possess much the same kind of validity that accrues to our fundamental ideas of space and time. Although it may be possible to conceive the existence of a world in which the diversity would be so complete as to defy analysis, yet we can only do so by postulating an infinite variation of particular phenomena, so that the same conditions would never recur in finite experience. Though we might argue that a being inhabiting such a sphere of existence would never acquire the idea of the unity of nature, yet by no series of arguments can we expel our own certainty of the reality of that conception. Differences and controversies arise only when we attempt to indicate in what manner it should be formulated.

We shall best be able to understand the principles of Spencer's attempt if we remember that, in his view, such a unification is

only to be obtained by the same methods which have accomplished so much in the sphere of the special sciences.[1]

This view carries with it the corollary that the border line between science and philosophy is indistinct, and that the completely unified knowledge of philosophy is an ultimate ideal rather than an accomplishment of his own or of any other system. All metaphysical problems and speculations Spencer explicitly excluded from the purview of philosophy, properly so called, and, whether or no we agree with such a limitation, we must not forget to estimate his work in the light of his own object and aim.

Spencer considered that he had found some genuine clues which would aid in unravelling the complexity of all orders of phenomena. These are contained in the second part of *First Principles*, a work which has been the subject of the most extreme and diverse criticisms. One extreme is found in the little volume by Mr. Hector Macpherson, who heads his chapter dealing with this work — "The Cosmos Unveiled," while others, whom it is not necessary to mention by name, have denounced the author as a pretentious word-builder, ignorant both of science and of philosophy, whose conclusions are practically valueless. The latter view is completely answered by even the most modest estimate of the influence of Spencer's work on the special branches of knowledge with which he dealt. To what extent the former may be justified is the question with which this essay is concerned.

In the first place, it is desirable to separate one aspect of the question which is liable to be lost in the discussion of more controversial details. None at the present day can doubt that, in all orders of phenomena, there are to be found some common factors. This is one of the commonplaces of chemistry and physics. That it may be possible to formulate a more complete unification is an idea not peculiar to modern philosophy, but one which, in the light of our present knowledge, has found ex-

[1] See *First Principles*, p. 119, and elsewhere, particularly the passage: "As each widest generalization of Science comprehends and consolidates the narrower generalizations of its own division; so the generalizations of Philosophy comprehend and consolidate the widest generalizations of Science." This and all other quotations from Spencer's work refer to the latest edition, published in 1900.

pression in a new form under the conception of cosmic evolution. This conception, though specially associated with Spencer's work, is greater and more fundamental than the personal doctrines of any individual however eminent. Whatever hostile critics may think of Spencer's special treatment, it is not possible to deny to him the great credit of upholding and revivifying this principle at the time when it was in danger of being forgotten in the discovery of the enormous variety of new detailed fact. More than that, it was precisely these new discoveries which Spencer found most useful in the building of his own scheme of unification.

Granting the validity of the principle of universal evolution, there remains the more special question as to how far Spencer has succeeded in formulating and expressing it in a manner likely to be of present and of permanent value. One fact alone will predispose us to give this question the most careful attention. The remainder of his philosophical work was intended primarily as an application of his evolutionary ideas to all orders of phenomena. To this work it is impossible for anyone not hopelessly biased to deny very great merit. Yet *First Principles* is the coördination of the whole, and, whatever the other volumes of his philosophy may have accomplished incidentally, they were written to illustrate the applicability of his main ideas, and particularly of his famous formula of evolution, to all branches of knowledge, and particularly to those connected with life and mind.

Again, it is not possible to doubt that, in his hands, these principles have proved remarkably fertile in unravelling complexities and in solving problems presented by many diverse branches of knowledge. This is not a proof of the validity of the formula. It is possible to thread priceless pearls on worthless string; but we must not assume too hastily that the present is a case in point.

In attempting to formulate fundamental unifying principles, the philosopher who is acquainted with the trend of modern science will find part of his work already accomplished. Modern developments of chemistry and physics have elucidated two comprehensive generalizations, of which philosophy must take

account, and which should be included in any attempt to unify knowledge. These, commonly known as the conservation of energy and the indestructibility of matter, are undoubtedly, so far as we can be certain of anything, of universal validity. Others again, such as the law of gravitation, while possibly not of such great theoretical certainty, are expressions of fact to which no exception has ever been discovered. The former two great principles are the starting point of Spencer's unification, yet, as usually expressed, they are not in the form that possesses the greatest philosophical value. The conservation of energy in particular is often regarded as an empirical law, which the last generation of physicists usually expressed by saying that the sum-total of kinetic and potential energy is constant, While, for the solution of certain problems of mechanics, the conception of potential energy possesses methodological value, it is out of harmony with ideas suggested from a wider point of view. From the standpoint of philosophy, potential energy is a meaningless figment, to be ranked with electric fluids, tubes of force, and other devices useful as a short cut to mathematical calculation.

To Spencer belongs the credit of first formulating a view now obtaining considerable recognition among physicists, that all energy is actual. Just as the energy of heat is not regarded as lost, but as actually existent in the motion of molecules, so gravitational energy, commonly called potential, must be regarded as actually existent in ether stresses and strains. The conception of the ether as a receptacle of energy is implicit in any theory of radiation, and generally in modern electro-magnetic theory, so present-day physicists have no logical reason for declining to accept this valuable addition to the theory of their subject which Spencer supplied so many years ago.

The philosophical form of the idea supplies one reason why Spencer adhered to his original term, the persistence of force, instead of the modern equivalent, the conservation of energy. Energy is a complex, and, as usually formulated, the latter principle requires the division into potential and kinetic to give methodological completeness. Spencer's principle, the persistence of force, includes this and much more. For physical cal-

culation it is sometimes convenient to ignore our conceptions of force, and to deal with its effects by means of mathematical symbols. This treatment will not suffice for philosophy, which demands a more fundamental search for first principles.

This primary basis of our ideas, Spencer found in the study of psychology. He pointed out that our ideas of matter and motion are largely complexes made up from our muscular sensations of pressure and tension. That which affects our muscular sensations actively we call force; and all our conceptions, visual or tactual, are ultimately compounded from this primary element. That which affects our muscular sensations passively, we call matter; and this element of passive force (if we may use the term) or inertia, is the ineradicable element of our ideas of body. As both matter and energy are known to us in terms of force, the phrase, persistence of force, includes both the modified conception of the conservation of energy and the indestructibility of matter.[1]

Without commenting fully on this psychological analysis, it is at once clear that Spencer's principle is more fundamental than the concept of modern physics known as the conservation of energy. It is not necessary to lay any particular stress on this point, because we shall find that Spencer, in formulating his law of evolution, returns from his ultimate analysis to the more familiar ground of matter and motion.

In still another way does this conception differ from the corresponding chemical and physical principles as commonly expressed. Considered philosophically, it is not merely a valuable inductive principle, but a necessary truth of the same order as our fundamental conceptions of space and time. Although the formulation of these truths has resulted from modern physical and chemical investigations, yet it remained for Spencer to point out that they are like axioms in that proof of them is impossible.

[1] The exposition of the preceding paragraph indicates as nearly as I can the meaning of this part of Spencer's work which has been so grossly misunderstood. Readers of Spencer will find this clearly expressed in the paragraph commencing "While recognising this fundamental distinction . . . ." — *First Principles*, p. 172. They should also note in the same connection *Principles of Psychology*, Special Analysis, Chapters 10–18.

In every attempt at proof we are bound to include some form of the same ideas as an assumption. Though it remains to modern science to define exactly what are the permanent elements in the constitution of physical existence, to separate essential from accidental accompaniments, yet the final result, whatever it may be, is but the clearer mental presentation of ideas which are implicit in the foundation of human thought. Their negation is inconceivable. They possess that highest possible criterion of truth that, when once the relations are disentangled, and clearly represented in thought, their opposite requires the impossible assumption that something has become nothing.

This discussion supplies the best opportunity for answering another question that has often been raised concerning this principle and concerning Spencer's formula of evolution. Doubt has sometimes been expressed whether these ideas are physical or metaphysical, and, if the former, what is their relation to Spencer's particular system of metaphysics, as expressed in "The Unknowable." To the first question there is only one possible answer. The formula of evolution and the principle of the persistence of force are purely physical. Their truth or falsehood is entirely independent of Spencer's metaphysics. This statement should require small emphasis. An objective philosophy, concerned with the unification of positive knowledge, must be judged by its congruity with the facts it seeks to coördinate and explain, and cannot be dependent on metaphysical principles. That Spencer recognized and asserted this essential separation is shown by the following passage:

"The subjects on which we are about to enter (The Knowable) are independent of the subjects thus far discussed (The Unknowable) and he may reject any or all of that which has gone before while leaving himself free to accept any or all of that which is now to come. . . .

"But an account of the Transformation of Things,[1] given in

[1] Professor Ward has criticised Spencer's use of capitals and, partly on this account, has attributed a metaphysical significance to his work which was not intended. The fact was that Spencer, like some other writers, used capitals for emphasis and to express the name of any unique principle. The quoted passage illustrates this peculiarity.

the pages which follow, is simply an orderly presentation of facts; and the interpretation of the facts is nothing more than a statement of the ultimate uniformities they present — the laws to which they conform." [1]

Owing to the subjective character of so many preceding systems of philosophy, the idea has become fixed in some academic circles that philosophy is identical with metaphysics, and the deductions, true or false, that can be drawn from metaphysical premises. In consequence, a large part of the criticism of Spencer's system has been directed to his metaphysical ideas, and many critics have assumed that when they have, to their own satisfaction, disposed of this part of his work, there is no necessity to trouble further with the philosophy. This is of course a grave error.

It is only fair to these critics to admit that, in some respects, some parts of Spencer's exposition, especially in earlier editions, give an excuse for the assumption that there is an essential connection between the two.

"Every antecedent mode of the Unknowable must have an invariable connection, quantitative and qualitative, with that mode of the Unknowable which we call its consequent." [2]

"By the Persistence of Force, we really mean the persistence of some cause which transcends our knowledge and conception. In asserting it we assert an Unconditioned Reality without beginning or end." [3]

Passages like these, and the occasional recurrence of such ideas throughout his philosophy, are liable to be misunderstood. Those who read his works without a thorough grasp of the conceptions involved, and those in search of useful controversial matter, will note these peculiarities, and, in consequence, gravely misunderstand the objects and aims of the philosophy. These are distinct flaws in an otherwise excellent exposition, which will, however, present no difficulty to those who are in sympathy with the main trend of his ideas. One great difference between the works of Spencer and those of many modern philosophers is that, while

[1] *First Principles*, pp. 109–10.
[2] *Ibid.*, p. 177.
[3] *Ibid.*, p. 176.

with him any such passages may be obliterated without affecting the main trend of his argument, in other cases it is difficult to disentangle the positive ideas from the mass of metaphysics with which they are involved, so that any one out of sympathy with the latter can only obtain from them detached thoughts which do not always repay the labor of the search. It is to be regretted that Spencer did not make this separation even more complete; but his explicit statement that his formula of evolution is in no way connected with his reconciliation between religion and science should make the distinction clear to all who attempt to deal critically with his philosophy.

To return from this digression to the conception of universal evolution, we have already seen that the two great generalizations of modern chemistry and physics, slightly modified in form, constitute the basis of Spencer's superstructure. As the ultimate analysis of phenomena brings us down to the primary conceptions of matter and motion, both indestructible and invariable in quantity, therefore all phenomena, from this standpoint, may be regarded as modes of redistribution of matter and motion. It follows that any general principles which pervade this process of change are of supreme importance from the point of view of philosophy.

When this analysis of phenomena is definitely separated from the metaphysics with which only a minority of readers will sympathize, the charge of materialism, or any other 'ism' with a disagreeable connotation, becomes not only false but meaningless. The analysis and consequent synthesis remain purely physical, and it would be just as sensible to complain of the materialism of a text-book of mechanics. Certainly Spencer shows that his principles are applicable to inorganic and organic alike, but so are other great scientific generalizations. Spencer's formula of evolution, if valid, is but one other strand pervading all orders of phenomena. My meaning will best be illustrated by quoting the following passage from his most prominent modern opponent, Professor Ward:

"Whatever be its meaning, its purpose or its life, the cosmos

in one aspect is but matter in motion. . . . The world of ideas is in some way presented through, and embodied in, the world of sense; and the sensible can be summarised in terms of matter, motion and force." [1]

It would not be difficult to raise objections to the form of this statement, but, for our present purpose, the substance is sufficient. Spencer's formula of evolution is an attempt to coördinate all orders of phenomena, in so far as they can be summarized in terms of matter, motion, and force. Such an attempt would only be invalid if such summary were impossible.

Such an expression of the conception of universal evolution, if valid, is of the greatest philosophical value. While the great generalizations of the indestructibility of matter and the conservation of energy can be described as fundamental laws of being, a true formula of evolution would be an ultimate principle of the cosmic process of becoming.

According to Spencer's formula, evolution in its primary aspect, consists of "an integration of matter and concomitant dissipation of motion." The contrary process, dissolution, is similarly "an absorption of motion and concomitant dissipation of matter." In examining this primary aspect of the formula, it is first of all necessary to assure ourselves that integration of matter and dissipation of motion are necessary concomitants. On this matter Spencer remarks:

"These are truisms. Constituent parts cannot aggregate without losing some of their relative motion; and they cannot separate without more relative motion being given to them. We are not concerned with any motion which the components of a mass may have with respect to other masses, we are concerned only with the motion they have with respect to one another. Confining our attention to this internal motion and to the matter possessing it, the axiom that we have to recognize is that a progressing consolidation involves a decrease of internal motion, and that increase of internal motion involves a progressing unconsolidation." [2]

[1] *Naturalism and Agnosticism*, Vol. I, pp. 247–8; quotations refer to the 3d English edition (1906).

[2] Cf. the passage: — "But, though every change furthers one or other of these

While evolution and dissolution, understood in this sense, are opposite processes, and as a whole every aggregate is undergoing one or the other, yet speaking more precisely, both are everywhere concurrent, and the observed effect is the resultant of the two.[1]

The truth of this principle can hardly be questioned, yet, simple as it appears at first sight, it has sometimes been misunderstood, and may possibly require some slight qualification. The following extract, taken from a well-known work on the concepts of science, shows the kind of errors that are likely to arise if Spencer's formula be regarded apart from those physical principles from which it has been deduced.

"According to Spencer where there is increase of motion there is decreasing aggregation of matter. Yet we have only to drop a weight to see increase of motion accompanying increased aggregation of matter, namely earth and weight approaching each other."[2]

The misunderstanding contained in this passage, though excusable in that it is directed to an allotropic and somewhat more ambiguous form of this principle which is contained in one of Spencer's essays, is one that any careful student of his work will have no difficulty in unraveling. To those who have followed this exposition, the reply will be simple. Matter is undoubtedly integrated (aggregated), and as a moment's consideration will show us, the motion is dissipated (not increased). In the first place bound in ether strains, distributed between the mass and each ponderable particle of the attracting earth, it changes first to kinetic motion, then to heat which is radiated into infinite space.

processes, neither process is ever unqualified by the other. For each aggregate is at all times both gaining motion and losing motion. Every mass from a grain of sand to a planet, radiates heat to other masses, and absorbs heat radiated by other masses, and in so far as it does the one it becomes integrated, while in so far as it does the other it becomes disintegrated. . . . Here, as elsewhere, the integration or the disintegration is a differential result" (*First Principles*, p. 259).

[1] *First Principles*, p. 257.

[2] *Grammar of Science*, 2d edition (1899) by Professor Karl Pearson, pp. 512–3. It is strange that Professor Pearson did not appear to recognize that the principle he criticises is the same as Spencer's formula of evolution and that he did not grasp its meaning. Whatever the reason may be, however, the error is not Spencer's but Professor Pearson's.

At the same time, it is true that, unless explained more fully, it can only be considered as absolutely valid if stated cosmically and in general terms. At times, applying the ordinary meaning to the terms 'integration' and 'dissipation,' particular conditions, and specially chemical changes, will mask the main process. An explosion, for instance, while it implies dissipation of matter, is also accompanied by dissipation of motion. Many other instances could be given, including those so ably marshalled, in another connection, by Spencer himself.[1]

It would be impossible, in the brief space at my disposal, for me to attempt to unravel all these special tangles, and to follow all these instances to their logical conclusions, in order to show that they are not at variance with so obvious a principle as the first part of Spencer's formula. To this subject I hope to return again at a later date. For present purposes, it is only possible to point out that, regarded cosmically, there can be no possible doubt of the truth of this principle, and to express the opinion that these apparent exceptions no more invalidate its truth than the simple fact that the waters of the river flow to the sea is falsified because the river winds, and here and there there are eddies in the stream.

Although this aspect of Spencer's formula of evolution is primary, it is the secondary aspects that are of greater interest. If the aggregates are small and the process rapid, no other changes can take place which can be described in general terms.[2] If the masses are large or the process slow, then we find the remarkable

[1] *First Principles*, pp. 269, etc.

[2] This part of the exposition (see *First Principles*, p. 262) was one on which Spencer laid some stress. Professor Ward has attempted to answer the argument by referring to fermentation and enzyme action (*Naturalism and Agnosticism*, appendix to volume I, p. 326), but, by so doing, he has only shown that he is not a good critic of the treatment of physical principles. In the first place most of the examples (fermentation) he mentions are not purely chemical but distinctly organic, secondly these very reactions are, as every chemist knows, specially complex. The products of (*e. g.*) yeast fermentation of sugar are exceedingly numerous and they really illustrate very well the increase of complexity which accompanies slowness of reaction. Also, it should be remarked, there is a distinction between the rapidity of the reaction as a whole and that of the change in any particular chemical molecule. Chemical reactions, to be included in an evolutionary formula, must be described not as molar but as molecular. Spencer's formula of evolution is certainly not disproved or discredited by any of the Wardian criticisms.

and interesting changes, the description of which forms so prominent a part of Spencer's work.

These special conditions, the existence of masses of considerable size and of a comparatively slow process of change, are always satisfied in the phenomena with which we commonly associate the term evolution. Alike in the slowly cooling and aggregating nebula, the developing organism, and in those still more involved complexes found in the institutions of human society, the slowly changing masses are subject to and affected by an infinite variety of incident forces. The last example will not be convincing to those unfamiliar with these conceptions, but Spencer has shown by a wealth of illustration that the same conditions apply, and that human societies, under the aspect of matter in motion, can be described in the same terms.

The main changes occasioned by the secondary redistribution of slowly evolving matter are described by Spencer as increase in the qualities of definiteness, coherence and heterogeneity, so that this involved analysis leads to the famous formula of evolution, which has been so often quoted and so widely discussed.

"Evolution is an integration of matter and concomitant dissipation of motion; during which the matter passes from an indefinite, incoherent homogeneity to a definite, coherent heterogeneity, and during which the retained motion undergoes a parallel transformation." [1]

Concerning this formula the intelligent critic will naturally be inclined to ask three pertinent questions: — What does it mean? Is it true? If true what is its practical value and validity? How far and within what limits does it give us a clue which will help us to unravel some of the complexities of natural phenomena?

The first of these is not easy to answer in a few words. It is impossible here to give any idea of the manner in which Spencer

[1] *Op. cit.*, p. 367. I omit the new addition "relatively," as the latter was only added to prevent misunderstandings which ought never to have arisen. Readers of this exposition will not need to be informed that this is a description of a process of change, and that it is not necessarily implied that evolving matter is ever absolutely homogeneous, absolutely indefinite, or absolutely incoherent, if indeed these terms have any meaning.

leads step by step to this generalization. The fertility of the argument, the wealth of illustration drawn from every order of phenomena, defy condensation. The terms are of the highest degree of abstractness, as indeed any such formula is bound to be, and, to those who have not given to Spencer's work very careful study, it cannot help but be difficult to understand. It will best serve the purpose of this exposition to give a single illustration, and from that I hope it may be possible for those who are not able to spare the time thoroughly to study the original to gain some slight idea of the meaning and range of the conception.

We are most of us acquainted with the nebular hypothesis, which indeed is now a necessary integral part of any rational present day astronomy.[1] How a nebula originates need not now concern us; it is sufficient for our purpose that, as a matter of fact, there exist in various parts of the heavens many irregular shaped bodies of very low density, which, spectroscopic analysis informs us, are masses of glowing gas. This is the first stage in stellar evolution. This mass (note the Spencerian formula) is indefinite in outline, incoherent in substance (as a gaseous body must be), and comparatively homogeneous in content. The substance is gaseous, the lines of its spectrum are comparatively few, showing the presence of only a small number of chemical elements, while our knowledge of gaseous masses precludes the possibility of any considerable differentiation between its constituent parts. Thus the nebula is an excellent example of the first stage in the evolution of an aggregate.

Evolution of this nebula proceeds by "integration of matter and dissipation of motion." As the mass slowly cools the energy, whether of molar motion, position,[2] or heat, radiates into space. The motion is dissipated.[3] The matter integrates; the particles

[1] It must be remembered that Professor Chamberlin's planetismoid theory is also a nebular hypothesis, inferring that the solar system is derived from a spiral nebula. It is at once the strength and the weakness of Spencer's formula that it is equally applicable to either alternative.

[2] For convenience of exposition, I use the idea of potential energy.

[3] This "dissipation of motion" is a plain statement of fact, and has, of course, no connection with that controversial deduction from the second law of thermodynamics — the dissipation of energy.

gravitate closer together, and, in course of ages, in place of what was a nebulous mass, there gradually appears a stellar system.

These masses are enormous in size, and consequently evolution is slow, secondary redistributions of matter and motion occur. The outline becomes more definite (this needs no explanation). The mass or masses become more coherent (liquid or solid bodies take the place of the gaseous nebula). The matter becomes heterogeneous: — heterogeneous in content (many chemical elements and ultimately an infinite variety of compounds take the place of a few gaseous elements); heterogeneous in structure (instead of a gaseous structureless mass there is found a star, with photosphere, and chromosphere and a group of planets of still greater complexity, revolving at different distances and with different speeds);[1] heterogeneous in other ways. The retained motion becomes more definite, coherent, and heterogeneous — this I think can be accepted without detailed explanation.[2]

Is it true? Is it a correct description of natural processes in all orders of phenomena? Whatever answer the present day thinker may be inclined to give, there can be no doubt that the inductive verification contained in the whole of Spencer's philosophy is overwhelming. We have just seen how exactly this formula fits the facts in the great cosmic example of solar and planetary evolution. This is but one of many instances that can be given of the manner in which, considered as a descriptive formula, it is verified by an examination of the facts of inorganic nature, of living organisms, and of the still more complex groupings exhibited by social life and institutions. From the inductive standpoint, this principle, for more than forty years, has been subjected to the criticism of thinkers of every school of thought, and has stood the test of time. Hostile criticism (and this has

[1] Professor James Ward (*Naturalism and Agnosticism* (3d edition), Vol. I, 230) objects to the application of the term heterogeneous to planetary orbits, but this is a somewhat foolish quibble about words. In the first place the paths of the planets are diverse, and secondly the planets do not move in any exact geometrical figure. The 'ellipses' are merely convenient mathematical *approximations*.

[2] Cf. *First Principles*, pp. 281, 302, 336.

not been lacking) has been directed less to the accuracy of the formula as a description of fact than to the details of the process of reasoning by which Spencer deduces his formula from more fundamental principles.

This latter deductive treatment is much too complicated to make it possible for me to enter upon the discussion in a short essay. The last few chapters of *First Principles* consist of an attempt to show that the formula of evolution is a necessary consequence of the persistence of force: "To this an ultimate analysis[1] brings us down, and on this a rational synthesis must build up." To those interested in this interpretation of evolution, these few chapters[2] will supply an example of close and careful reasoning which well deserves study and attention. Whether this reasoning can be maintained in its entirety is a question on which I shall be excused from expressing a decided opinion where I am unable to make any attempt at an adequate exposition or discussion. While I am convinced that, in the main, the reasoning is sound, I do not now commit myself either to agreement or disagreement with the details of the argument. Whatever our opinion may be on this matter, there can be little doubt that the inductive verification is complete enough to warrant our assuming its truth provisionally and proceeding to the question of its practical value and validity.

It is from this standpoint that Spencer's principle is open to the most cogent criticisms, and at this point that a number of speculative problems arise. For the purposes of this discussion it will be convenient to compare Spencer's formula with the three physical principles which are generally admitted to be of universal applicability — the law of gravitation, the indestructibility of matter, and the conservation of energy. All these have one feature in common which makes them in that respect of

[1] *Op. cit.*, p. 369. In view of a remark in Professor Ward's *Naturalism and Agnosticism* that "Spencer confuses analysis with abstraction," it is as well to mention that the term analysis does not imply that in phenomena there are no other aspects than the 'Persistence of Force.' The word must not be interpreted in too chemical a sense. In short, like any other work, Spencer's philosophy requires to be read with some common sense and some regard to the context.

[2] Chapters 18–22 of *First Principles*.

greater practical value than Spencer's principle. They are quantitative while the other is but qualitative, and so, while in simple cases it is possible to make specific deductions from these, nothing of the kind has ever been accomplished with the aid of the formula of evolution. Let us imagine a law of gravitation, robbed of its quantitative element, to read: "Every particle of matter attracts every other particle of matter." Such a principle would be true, but much of its practical value would have disappeared. Without going all the way to the pragmatist position, we must at least admit that a law, from which no practical deductions can be made, is one which we can only note and put on the shelf till it is possible to make use of it. There are, however, two considerations which should not be overlooked in assessing its value. A qualitative proposition may be a necessary stepping stone to a fuller and quantitative statement of the truth it contains; and again, because no practical deductions have been made from a universal principle, it does not therefore follow that valuable deductions may not be discovered in the future.

Even if we apply the pragmatist test in its crudest form, Spencer's principle will not be found to have been entirely barren, and it finds special interest in the fact that its applicability is greatest in precisely those branches of knowledge where the other great physical principles are so entangled with other factors that they afford us very little help in unravelling the complexity. Readers, for example, of Professor Sully's work on psychology [1] (to say nothing of Spencer's own works) cannot but admit that, even in psychology, Spencer's principles of differentiation and integration are of some value. In biology and in sociology Spencer has pointed out examples too numerous to mention. Again, in speculation on the largest aspects of the cosmic process of change, it is not a small thing to possess even one conception which pervades all nature.

Like every other great principle, it will serve us well so long as we do not expect too much of it. A law of the highest degree of abstractness will not by itself give particular conclusions, it

[1] *The Human Mind*, by Prof. James Sully, particularly chapter 7.

only provides a clue to the main trend of natural processes. Although it provides us with a description of the all-pervading process of evolution and of dissolution, it does not tell us when, in the cosmic rhythm, the one or the other will predominate. Dissolution replaces evolution when the quantity of motion received is greater than the quantity dissipated, but precisely when the one process will replace the other is decided by incalculable particular conditions. When the impossibility of obtaining particular conclusions from his formula was brought to Spencer's notice, he pertinently remarked that even that exact quantitative principle — the law of gravitation — would not, by any known mathematical process, give exact results even in the simple case of three gravitating bodies, while, in a globular star cluster, it would be impossible to disentangle the complexity. From a principle so abstract as Spencer's formula only general conclusions can be expected, but even these are not without their value. And, even apart from particular deductions, there is to many minds a supreme interest in discovering a general truth, an interest which is not easy to explain to those who have it not, but which will be understood by those who value knowledge for its own sake.

To take this comparatively modest view of the value of Spencer's formula is but to class it with all other great fundamental principles, and, though Spencer attached to it greater importance than probably anyone at the present time is likely to do, he was well aware of its necessary limitations. When we realize the true nature of these evolutionary principles, when we see clearly that from the nature of the case they cannot solve all problems, we can understand the real value of this admirable, and, within reasonable limits, successful attempt to unify knowledge by showing one more common strand pervading all orders of phenomena.

Those who specialize in physical science have not yet realized the range of Spencer's conceptions so far as they can be applied to that side of human knowledge. The terminology of *First Principles*, as of all Spencer's work, differs from that of the special sciences. This is as it must be, the terminology of the

particular sciences have reference only to the facts to be found in a certain narrow sphere, that of an objective philosophy refers to all knowledge. Readers of Spencer's work, who are particularly conversant with physics, will find much that will vitalize and illuminate their own work, especially in its most general aspects. In the sphere of physical science, Spencer's general ideas have never been developed to particular conclusions, but, if they had been, it is not unlikely that their effect might have been as great as in the life sciences. Apart from the principle of the actuality of all energy, which I have touched lightly, and the formula of evolution, which I have discussed at greater length, *First Principles* alone contains not a few ideas applicable to physical science. The two chapters on the "Rhythm of Motion" and "Segregration" will be found to contain thought and principles which throw some light on physical processes as yet obscure, at any rate to the extent of showing that they are particular cases of more general laws.

Those who watch the progress of chemical and physical science will note with interest the manner in which present-day developments are breaking down, one by one, the barriers which seemed to render the conception of universal evolution, of which Spencer has been the most noted exponent, more a subject for remote speculation than for present day philosophy. To the experimental genius of Sir William Ramsay and others, the seemingly impenetrable barrier presented by the chemical elements has already begun to yield. When previously we could only speculate or infer, now we know that at least some of these are elements only in the sense that their disintegration involves an energy change of a different order from that accompanying the decomposition of other substances. In the most general aspect of Spencer's ideas, the unity of all matter as of all nature, the main trend of modern thought and research confirms this fundamental principle, and, if for that alone, the most modest estimate of a work which so clearly formulated the principle of universal evolution cannot deny to it very great and permanent value.

H. S. SHELTON.

THE PHILOSOPHY OF SCHELLING.

IN many respects Schelling is a philosopher who cannot be said to have come to his own. Standing between Fichte and Hegel, his characteristic blendings of poetry and science, philosophy and mythology — which made him philosophic center and focus of Romanticism — caused him to be often regarded more as romancer than as seriously constructive philosopher. Unlike Fichte, whose preponderating influence was man, Schelling laid stress upon the world, carrying over into it his wavering subjectivity and his bold phantasy. It was for Schelling an "immediate certainty" that "there exist things outside of us"; and nature formed for him "the sum of all that is purely objective in our knowledge."

Recent idealistic speculation has laid its beginnings so strongly in subjectivity, that it has been needfully reminded by the New Realism of our time of the significance of aspects like this Schellingian one, wherein the world appears as a datum rather than as a construction. Even if we do not finally rest in Realism, it is necessary to do more justice to objectivity than it has idealistically received. Schelling, for all his hold on objectivity, had an imposing, speculative construction.

The world was to Fichte as self-consciousness erects it; but the self which builds it was to the Romanticists the self of genius — of the constructive artist — and the real world is the world that satisfies such geniuses. Schelling is the most genial of the three speculative thinkers whom we have named, for his ideal of man is just this genial and creative individuality — not, as with Fichte, moral will or character. The Romanticists preferred, to the ethical idealism of Fichte, the less severe mode of interpreting nature, idealistically, in terms of bold statement and striking divination. For Schelling, the greatest problem was the determination of the relationship between nature and mind, between the unconscious and the conscious.

A true metaphysic of nature is a thing of such prime philo-

sophic concern, that it cannot but appear strange that Schelling's philosophy of nature has never received the attention it deserves. To him nature, as unconscious expression of spirit, is visible spirit, and spirit is invisible nature. The absolute intelligence is taken by him as not only giving rise to ideal conceptions, but as creative of the real world. Between such a method as Schelling's of constructing reality from an advancing thought-process, and the intuition on which he insists, there is an inherent contradiction. For him, there was the same Absolute in nature as in mind, their harmony being no mere reflection of thought. If you suppose we transfer our idea to nature, then, holds Schelling, you have not even dreamed what nature is and should be for us. Nature is the counterpart of mind, and produced by it, only that mind may, by its agency, attain to self-consciousness or a pure perception of itself.

"The attempt," according to Schelling, "to account for nature as a production adapted to design, that is, realizing a purpose, destroys the character of nature, and, in fact, the very thing which constitutes it nature. For the peculiarity of nature consists in this, that while its mechanism is blind, it is in that mechanism, nevertheless, adapted to a design. If we destroy that mechanism, we also destroy nature itself." It was indeed this thought of nature's life and action, as constitutive of existent reason, that Hegel expanded into the statement that all that is real or actual is rational. The real thing, to Schelling, is the idea; the idea is the substance — the heart of things; finite existence is a merely derived being, and, loosed from the idea, has no reality. Existence must, in his view, be thought of as substance.

Schelling derives largely from Spinoza, the net result not being Spinozan substance, with matter and mind as inseparable attributes of one being, but an inconceivable background of real being named the Absolute. But Schelling's conception of God is not a simple one, but consists of several, which together sum his inner development. The God-problem occupied him but little at first, God being to him then the world-creating, absolute I, standing in sharpest contrast to the empiric ego of man,

which latter exists only through this absolute I. For him the unity of consciousness — in other words, personality — is found only in the finite ego. The infinite ego has no object; neither has it unity of consciousness nor personality. Schelling is still one with Spinoza, but he comes to think differently later. Other stages into which he passed are, periods of interest in the philosophy of nature, and in transcendental idealism.

The mistake of Schelling was to give his idealism an absolute cast, whereby the Idea, as a universal principle of explanation, should be unable to explain the irrational, evil, and contradictory elements of the world. For it can, of course, be urged that, in making Reason all, he fell into an unscientific dogmatism. From consciousness as starting-point of his idealism, he passed to that of the Absolute implied in his philosophy of identity.

Freedom and necessity he sees to be harmonized in God, the absolute synthesis, the identity of the ideal and the real. An infinite process to him is the development of the absolute synthesis. But, again, Schelling's æstheticism finds God really revealed only in art — for him the true religion. The spirit of his teaching may be best gathered from words of his own: "If art is to imitate nature, it has to follow in the wake of the creative power of nature, and not merely slowly to take up architectonically the empty scaffolding of its external forms, and to transfer an equally empty picture of them upon the canvas. It was only for the deep-thinking Grecians, who everywhere felt the trace of the living and working essence, that nature could present many true gods. If we look at things, not with reference to the essence which they contain, but with reference to their empty form, they will not communicate anything to our mind or heart." Art, then, is for Schelling the first revelation of the infinite, in which we are still far from having blended the objectivity of art with the subjectivity of religion.

But Schelling's development presses on to the philosophy of identity; hitherto he has been seeking to overcome Fichtean dualism; he is now centered upon the problem of the Absolute, for solving which man must have intellectual intuition. Such intellectual intuition Schelling believed to be necessary, to save

us from narrow subjectivity; and possible, because the Absolute itself dwells in us as essence of our soul. The intuiting self is identical with the intuited or perceived: in the moment of intuition we are not in time, but time — or rather pure, absolute eternity — is in us; with this intellectual intuition, Schelling seeks to know God, the deepest essence of the world, who is also One. This All-One, whom we call God, has knowledge as his form or eternal being: absolute identity is God's essence and form in synchronous fashion.

By the way of philosophical construction, that is, by means of intellectual intuition, Schelling hoped to attain certainty; but it is clear, on scrutinizing it, that this can never become a method of scientific cognition.

God is Reason, in whom all things are comprehended and perfected, so that Reason is already — anticipatory, that is to say, of Hegel — the essence of the world. The Divine unity is, for Schelling, a really existent unity; undifferentiated activity gives way before the abstract monism of a pure unmoved identity; the self-revelation of God is his existence; things then become so many potences, with the absolute identity as their basis; the sum of these potences is the being of the absolute identity — the All, for he is the only real, outside of whom is nothing.

Schelling's philosophy of nature does not provide for any creation of objects, in the ordinary sense of creation. The Schellingian pantheism required the identity of the absolute and the creature to be preserved, so that the absolute must itself enter into the finite, and be immanent in it. The common postulation of an eternal spirit first, then a material world consciously created or produced by it, is by him reversed — matter being to him first and spirit supervening with growing subjectiveness, until pure and perfect ideality is reached, but such spirit, in this late sense, not being Creator of the world. In this way infinite nature came to objectivize itself in its own perfected works. The Absolute is, in all the real products of nature, identical with these, its products — identical with the material world. The real and the ideal are, in the Absolute, identical; the subject

and the object, nature and spirit, are identical in the Absolute; and it is through intellectual intuition that we recognize this identity. For Schelling the function of all philosophy is to evolve nature from intelligence or intelligence out of nature. Hegel showed Schelling's system of identity to be but logic, and not concerned with reality.

We are now upon Schelling's pantheistic conception of Deity, in which God and the universe are only two sides or aspects of one and the same thing. God becomes an abstraction, and the world is nothing in particular! But the result was too complete, and led to that study of the rise of the finite out of the infinite, and of the phenomenon of evil, which ended in Schelling's acceptance of theism, of Divine Personality, and of real revelation.

We have seen men of genius and artistic power to be, in Schelling's view, endowed with a faculty of intellectual intuition, which discerns the identity of the One with the All. Such "intellectual intuition" is, for him, "the organ of all transcendental thinking," for this latter aims "to transform into its own object" what is otherwise "no object," so that, in the result, "the producing of the object and the perceiving are absolutely one." The ego itself is such an intuition, such ego being principle of all reality. The sole organ of transcendental philosophizing is, in his view, the "inner sense," whose object is of such a nature that it never can become the object of external intuition. His Absolute is the indifference of real and ideal, of the subjective and the objective. Nature is, to Schelling, really the Absolute, but we have seen how he moved away from conceptual problems to living ones.

In matter, as the simplest form in which the Absolute appears in nature, the real is the predominating element. Its ideal element is pure force within, or rather, the synthesis of two opposite forces, attraction and repulsion. This ideal element or factor gradually overcomes the comparatively inert mass, through light and life, and various dynamic laws come into play. The formative impulse in nature presses on to higher forms in a progressive development. But it is the "eternally unconscious" which is, for him, root of all intelligence, law, and order.

It is, however, one of the fine features of Schelling that the unity of science and the unity of life are focused in him; for, while he attaches himself to the study of the special sciences, he at the same time seeks to construct, or construe out of their essence, their highest principle, namely, the Absolute. Existence is, to Schelling, self-activity, and nature is already self-activity before she arrives at self-consciousness; for nature, to him, is in herself absolute self-movement. Matter is the root of all things — is existence in its first form; but it is still only the unity, or the polar tension of powers or factors which are active in opposite directions. Nature or the universal essence does not stop short without potentiating itself into life. For an actual ground must be an active one, and the stage of pure potence must be overpassed. But the obscurity and indeterminateness of Schelling's treatment make one ask whether, in all the foregóing processes, identity and indifference are preserved?

God is not God of the dead, but of the living, to this richest of the three great speculative thinkers, from whom we set out, in ideas, intuitions, and variety of directions in which he has supplied stimuli. Schelling's thought proceeds in no constant and unvarying direction: his world-view is set to changes of severest type; he thinks such changes are the necessary supplementings of all earlier positions. The World-soul is to him the principle of life. The acceptance of a conscious, actively purposeful Creator raises philosophy in his view. But in a breaking away, a spring (*Sprung*), or falling away from this Creator, does he find the origin of the sense-world, God himself developing through the world, in its historically claimed independence of Him and return to Him.

Teleology in nature was, however, for him only of an unconscious kind. Every organization seemed to him an unconscious purposive product. Schelling's psychology holds nothing to be real save the will, and regards its own psychological function to be to start from the primal will found in nature, and follow the different stages of knowledge up to the active understanding and the practical reason. 'Tis a merit of his to avoid the mistake of Spinoza and others who make of the universe a fact, or a con-

catenation of facts, while it is really a life. To Schelling, the life of humanity is seen typified or symbolized in nature, wherein spirit has found expression earlier than in man. Schelling, in making man thus an evolution of nature, was reversing the method of Fichte. Schelling's constructive idealism sought to free Fichtean idealism from the arbitrary aspects of the life of finite selves, by providing a theory of the facts of nature, and of the evolution of consciousness, that should be complemental to Fichtean thought. The outer world, then, was a manifestation of spirit, to which outer or natural order the inner world of the ego is inevitably related. These two sciences — mind and nature —Schelling expressly maintains, need and supplement each other, and he declares that a perfect intellectualizing or spiritualizing the laws of nature into laws of thinking or intuition would be "the highest perfecting of the science of nature." For "that theory of nature," he says, "would have attained to perfectness, by virtue of which all nature would resolve itself into intelligence." Man is but nature's last and highest reflection.

The successive stages of phenomenal existence, from nature's lowest forms up to the highest manifestations of life and thought, where sensibility reigns supreme in man, are set forth by means of Schelling's notable — and, it must be said, suggestive — doctrine of potences. All three moments of the Absolute are present, in pursuance of the principles of his theory of identity, in every phenomenon, and all are organic in the end. Man is the sum and content of all the potences. Mechanical and chemical forces are but negative conditions of life: they await vital stimulus that lies exterior to the individual; such is the result of the absolute productivity, which works under the universal law of polarity. "Universal nature," is, for him, common principle of organic and inorganic.

It was here that the defect of Schelling's treatment of the Absolute appeared. Berkeley and Fichte had seen — the former that there is no object without a subject, the latter that, in this sense, the subject makes the object; but Schelling saw that neither can there be a subject without an object — that the objective world equally conditions the existence of the ego. For him,

that is to say, the universe has an existence of its own relatively distinct from the thinking subject. This is not to say, however, that the non-ego, in his view, makes the ego — that sense-perception is constitutive of thought, as with Hume, Locke, Condillac.

There is something finely suggestive in the way Schelling asks how the system of nature can be given to us, and does not blindly content himself with the scientific mode of accepting nature as something immediately given. His deeper quest was to know how the system arose for us, and how we are able to perceive it. His dynamic atomism pierced to forces, and was not content with brute facts. But dynamism, endowed with reason or intelligence to a quite fantastical degree, was what formed his philosophy of nature.

But Schelling leaves nature, with her bi-polar laws, standing like an independent entity over against mind, with her bi-polar categories, in unresolved antagonism. This unresolved task was taken up by Hegel, who identified the Absolute with the process itself. Schelling's worlds of mind and matter were supported by the Absolute, who seemed — according to the well-known saying of Hegel — in Schelling's system shot out of a pistol. Schelling, that is to say, does not show why it is there, or what it is, when he ought to have gone on to unify his bi-polar aspects of the world, relating them to an Absolute Being as a primal cause, and deducing their different natures as due to necessary consequences of evolving principles that latently inhered in such originative cause. Schelling's Absolute remains outside of things, if only for the reason that they proceed from Him. His absolute reason was to mean an equilibrium or indifference of subject and object. But if these two coincide in such a blank identity, the absolute unity becomes reduced to empty form or nothingness. Such an Absolute can give no substantial unity, neither can it subserve any purposes of real explanation. His Absolute was to be the center of indifference of the magnet, but the magnet is no magnet at all, for since, by polar logic, subject and object must first be eliminated ere we reach the Absolute as point of indifference, we are reduced to blank nothingness in the process, and never reach a conscious knowledge of the Absolute at all.

It need not be denied that there was something of freedom, and something of elevation, in Schelling's conception of pure and infinite Being as the absolute indifference; but the subject and object, annulled in the process, are never again methodically developed from that indifference. This mode of thinking was characteristic of Schelling's earlier system. This annihilation of consciousness scarcely seems a promising foundation for philosophy; the Absolute is the middle point of the magnet, the center where there ceases to be any difference between the opposing poles of the real and the ideal; the knowledge of the Absolute which he brings us is a recognition of the essential identity and indifference of all things. In its purely pantheistic stage, the main — however variously estimated — service rendered by Schelling's philosophy, was this assertion of the identity of thought and being, this finding of the key to the problem how the ideal world of consciousness and the real world of being should correspond, and come into commerce with each other. Thought and being, the ideal and the real, are to him identical; all activity and movement of the world of appearance are mere *Schein* of the absolute unity.

In Schelling's Absolute there is a dark, irrational ground, which has to be purified, developmentally, ere Personal Being is reached; there is for him something in God which may, no doubt, become God, but is not God. God must have the ground of existence within himself, says Schelling, since nothing exists before or without God; but Schelling does not take this ground to be God, absolutely considered, that is to say, in so far as He exists. But if the world were taken, he says, to be different from God, then would the world have arisen from a ground different from God; but, as nothing can exist outside the Absolute, the solution of the contradiction is to be found, in his view, in the world having its ground in that original ground which is also the ground of the Divine Existence. This ground — or absolute potence — cannot be resolved, but remains as the ground, "the incomprehensible basis of reality."

Naturally, the ascending powers, which are so prominent a feature of his philosophy of nature, are of great consequence in

such a system. In that philosophy, as we have seen, the concept of powers and the concept of polarity have fundamental places. His metaphysical idealism draws largely upon analogy; and indeed the philosopher of Romanticism goes so far as to put his own symbolic expositions of nature before the painful searchings of science into the real and reciprocal interconnection of phenomena.

It was his distorted conception of philosophic function — in which Fichte and Hegel in their own ways sinned along with him — that led Schelling to construct nature in his *a priori* fashion, with a fine scorn for the blind and senseless natural science that was everywhere establishing itself since the destruction of philosophy by Bacon and of physics by Boyle and Newton! Having originally claimed nature and spirit to be fundamentally one, Schelling later declared the ground of nature and spirit, the Absolute, to be "the identity of the real and the ideal." The doctrine of identity is thus added to the philosophies of nature and spirit, this philosophy of identity forming indeed their basis. Hence the world-ground is neither nature nor spirit, but the unity of both, rather the indifference of subjective and objective, in which the self-identity of the Absolute is never lost. Such was the goal to which Schelling's thought had traveled from the time when he extolled nature as source of spirit — as, in fact, undeveloped and unconscious intelligence. He had exalted nature to the position of subject, and only from creative nature — *natura naturans* — comes the ego, in this reversion of Fichtean procedure. Nature being to Schelling *a priori*, he thinks we can philosophically construct it anew.

It was his favoring poetical symbolism as a mode of interpretation that made it a more natural result that he should give art the supreme place. But, alike in his teachings and in his want of proper method, Schelling showed himself to be marked by the arbitrariness and lawlessness which were so characteristic of Romanticism.

Schelling does not fail to deal, in his so-called positive philosophy, with the problem of freedom, in relation to good and evil: evil for him arises out of the striving of the individual will against

the universal will; man is, for him, free creative activity, and, as such, the essence of the world; his doctrine of freedom, indeed, is marked by insight into the metaphysical essence of the world, but tends to approximate to the irrationalism of Schopenhauer. God at length becomes to Schelling life and personality, not an abstraction; He is becoming and development, not static being; the essence of the world is will, as primary being, though only presaging and unconscious. In the last and highest instance, he insists that there is no existence save willing, which is original existence, self-affirmed and independent of time. Thus the necessities of the ethical life came to influence Schelling's thought more than abstract speculation.

The positive essence of freedom, says Schelling, consists in this, that it is a faculty of good and of evil, so proving the greatest difficulty in philosophy; for he thinks "it is impossible to understand how a faculty for evil can follow from God"; hence "the derivation of human liberty from God cannot be a correct one, but it must, at least in as far as it is a faculty for evil, have a root independent from God." Schelling does not content himself with making freedom the principle of moral action, but regards it as also the principle of consciousness, so making it the common principle of theoretic and of practical philosophy. Nor does he fail to notice an irrational and contingent element in the world, especially in the sphere of organic life. But Schelling is not sufficiently careful to keep the irrationality of individual wills from being, by any possibility, grounded in the last resort in irrationality of the Absolute Will. His philosophy of religion — with its personal God, its freedom, and its individual immortality — is of merely negative value. All birth is, for Schelling, birth out of darkness into light; the process of creation is an inner transmutation of the original principle of darkness into light.

If we desire the dark ground, which is the common root of Deity and the world, to be brought nearer to us, then says Schelling — speaking now as characteristic philosopher of Romanticism — we shall find it to consist of something which is essentially longing — longing to give birth to itself. Man does not at first perceive that he is not really separate from the Absolute, that he

is himself an integral part of the Infinite Power, but this identity ever grows in its hold upon him, the infinite spirit acting in him by the different gradations of revelation.

Man has, as we have seen, two principles in him, wherein consists for him the possibility of evil or of good, as he unites himself to the Universal Will or not. But one must recall in this connection that human individuality is a quite insufficient basis for morality, and that it should be realized that moral justification is found for such conceptions as individuality and personality only as they are grounded or set in the universal-human. Schelling came to see that the key to the world's enigma must be found in no categories of nature, but in ethical categories of freedom. What he did not realize was that perfect freedom of the human personality implies that it shall be regarded, as little as possible, as a mere means of divine purpose, and be rather viewed as having end and worth in itself.

Schelling's theism is by no means of a kind that is free from contradictions, when taken as a complete world-view. It does by no means consort well with his pessimistic world-conception. He postulates an immediate, intuitive, and individual knowledge of the Absolute in man, but overlooks that this knowledge is not on all fours with the knowledge which the Absolute itself has. The speculative theism of his later thought was meant to give depth to his originally pure pantheism, while the pure rationalism of his earlier thought was supplemented, later, by a higher empiricism. His later thought made the Divine Personality consist simply in the living unity of the Real and the Ideal — a position not so free from arbitrariness as to be quite easy to justify. The abstract, empty unity, of which his Absolute originally consisted, needed and received from him modification, in respect of the production of the world's multiplicity. In fact, no one presses on more than Schelling from empty speculation to an inquiring comprehension of reality. The irrationalities, discords, oppositions, found in nature and history, are, to Schelling, necessary in order to life. There can be no real unity in his view without such conflict. For only thus does substance first become living, intelligent, willing, active. For the unity

of personal being, even in Deity, he must needs postulate an original antithesis in the Absolute. This new mode of conceiving Deity, though interesting and suggestive, does not really carry us far, since the conflict or opposition is entirely within Deity's own nature.

Schelling failed to realize that our individual consciousness can perceive only the ready products of the activity of the Absolute, never the precedent producing activity itself. Indeed, it is with the products that our consciousness itself has its rise. Schelling's method has need of an infusion of inductive method, which infers the transcendent in backward fashion from the perceivable. This, however, he came at length to perceive, through the proved insufficiency of the "intellectual intuition." The development of Schelling's thought was steadily from an abstract, æsthetic world-view to a living and ethical one.

In his later philosophy, Schelling begins his ontology with the indeterminate idea of the possibility of becoming (*Seinkönnen*), from which the critical and gradual separation of the ambiguous and indeterminate will educe the true concept of God, which, to Schelling, is that God is the Lord of Being. God was, to him, the Original Possibility of Being; the science of reason shows Him to be the *natura necessaria* — existent in nature or concept, and not merely possible. A still subjectively-thought existence only for Deity; but reason so encloses Him that He is not to be held as essentially so enclosed — in fact, it must postulate Him as actually existing. These ontological suggestions or contentions have been unduly overshadowed by those of Hegel, superior as these latter, even with their exaggerated form, may be. Schelling's theistic conceptions are very unsatisfying, for he holds that God first comes to consciousness in man. In the final stage of Schelling's conceptions of Deity, we find him holding to personality-pantheism, in which all being is God's being, and three personalities are postulated as in Deity. The three potences of his "rational philosophy" are, the negative, the positive, and the harmonization of these two. It was to Schelling — as to Fichte — the task of theoretic philosophy, to give a history of self-consciousness. For him "that which is posited *out of*

consciousness is, in its essence, the same as that which is posited *in* consciousness," and so "the knowable must itself bear the impress of the knower." Schelling's philosophy of nature one-sidedly fails to bring out that man's consciousness is not merely consciousness of nature, but is also consciousness of itself, and of its own knowledge. The I, in its self-consciousness, must be held to have other contents than merely that of nature.

It was the principle of his philosophy that brought Schelling to his æsthetic standpoint. He held to two forms of activity in the Absolute: the world of nature sprang out of an infinite, unconscious, necessary activity of the Absolute, while morality was the product of its free, conscious, purposeful activity. The objective world was, for him, only the original, but unconscious poesy of the spirit. The philosophy of Art was the universal organum of philosophy — the keystone of its whole arch — in Schelling's view. To him the idealistic world of art, and the real world objects, are products of one and the same activity.

"But if we are to apprehend it," says Schelling, "as living, the essence must, in its form, not only present itself to us, in general, as active principle, but also as spirit and as science, which realizes itself in its works. Every unity can only be spiritual both in its mode and in its origin, and what else is the aim of every investigation of nature, if it is not to find science in it?" "True, the science by which nature works is not one similar to human science, which is immediately connected with reflection upon itself. No; in the former the idea is not distinct from the act, nor the plan from the execution." Every work of art is, to Schelling, properly the product of genius, purposed yet created, and achieved as by miracle. The work of freedom, it is yet prompted as by nature's necessity, so that conscious and unconscious action here coincide.

The coincidence or meeting together of conscious and unconscious activity yields the real — without consciousness, and — with consciousness — the æsthetic world. Schelling takes man to be that wherein is first found the highest form of beauty: the beauty of the soul is for him the highest signification of nature. He enriched æsthetics at many individual points; his changing

æsthetical interests are seen in the three main periods of his philosophic life; the first, in which his art-philosophy is brought into being in his transcendental idealism; the second, in which it appears, broadly developed, in his system of identity; and the third, in which it is marked by theosophic thinness. In the first of these periods Schelling opposed what had been the one-sided moralism of Fichte, who raised Kant's transcendental unity of apperception to the position of a metaphysical essence — the absolutely producing I. Thereby nature, as the product, was left as a mere means or transitional stage, in the confirmation of this I. Schelling, without being conscious of the fact, adopted what had been the view of Leibniz, that all nature is *Ichheit*.

So far from treating æsthetics as mere passage to morality, Schelling made the artistic point of view the controlling one in his whole philosophy of the objective. Nature is extolled by him as an original creative power, and his view ran on into the period of his system of identity, with its equal positing of the subjective and objective elements — will and knowledge. His attempts at knowing and comprehending the unity of the subjective and the objective were various; at one time as the unity of positive productivity and negative conditions, in his philosophy of nature; at another time as abstraction of the objective, in his transcendental idealism; at yet another time as the most original unity, in his system of identity. In the last and most original opposition of active will and passive idea, the world-process tends to appear as a triumph of light or idea over blind and dark will.

If we take so recent a work as Professor Laurie's *Synthetica*, one finds in it not a little that is suggestive of the influence of Schelling. Laurie says "the system of which we form a part is irrational." The irrational element, which figures in Schelling's philosophy, is that which gives it a certain realistic tinge. And yet the system must be taken as idealistic, since in it the universe exists only in thought, thought being but the universal nature in its developmental process, wherein, after all attempts at objectivization, it returns into identity with itself as pure subject. The irrational element is significant, too, of a certain reactionary tendency in Schelling against speculative philosophy, as not with-

out limit, or as marked by inability to reach its final goal. Hence the lingering dualism in Schelling's idealism; his identity doctrine is too abstract and formal; the differences are not really and finally harmonized. Indeed, idealistic as we may admit his system to be, the difficulties as to a coherent world-theory were so great as to work in him an unconscious transition to (an epistemological) transcendental realism. Idealism is the soul of philosophy, he says, realism its body; and it takes these two to make a living whole.

The boldness of Schelling's claim for speculative construction, as able to reach beyond empiric limits, and disclose the inner type of all things, one cannot choose but admire, yet one is, of course, compelled to admit how little nature can be reduced to true unity save by that severe and earnest scientific study of reciprocal and interconnected forces and phenomena which Schelling, in his arbitrariness, undervalued. Yet the fact is not without significance that we have scientists today like Sir Oliver Lodge, Lloyd Morgan and others, who seem disposed to take idealistic interpretations as more ultimate than those yielded by science itself. For any realism must avail but little whose external world is not one revealed in experience.

So, too, his evolutional theory was not realistic enough to face an actual transition of one power into another, instead of each form springing directly out of the infinite productivity itself. Matter was, to Schelling, slumbering spirit, and the evolution he presents to us, in the sphere of reality, is the evolution of the Absolute. But Schelling was idealist enough to hold to the ideality of space and time — space, as such, being nothing real, and time only inner sense becoming, to its own self, object. For Schelling, philosophy's progress is seen first in mythology, and then in revelation.

The evolution of the God-idea in history is traced by him so as to show a passing from pantheism or monotheism to polytheism, and thence to the triune God of revelation. But for him the world's history is just God coming to Himself, and our longing for the actual God is what constitutes religion. With Jacob Boehme, he makes the Absolute the *Urgrund*, the essence prior to all duality, to all ground or existence.

To Schelling's philosophy of nature and transcendental idealism, there has been no nearer approach than Hartmann's philosophy of the unconscious, and Hartmann has sought to bring out the merits of Schelling's metaphysical system. It was a merit, certainly, in Schelling that, to his earlier purely rationalistic philosophy, he added a supplementary positive philosophy, in which freedom and divine will and action are present in more satisfying ways than those which had made the Absolute become personal in man.

Schelling's philosophy shared too largely the weaknesses and limitations of his time to be capable of adoption today, but that does not keep it from being calculated to kindle speculative power anew, to supply weighty thoughts for the healing of the disunion between pantheism and theism, between science and religion, and to point the way to some better world-view of our own making.

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THE LOGICAL STRUCTURE OF SELF-REFUTING SYSTEMS: I. PHENOMENALISM.[1]

INTRODUCTION.

IN a paper[2] which I read a year ago before this Association I presented a set of postulates from which a self-critical epistemology can be derived. My purpose in presenting a paper again today is to contribute to the demonstration that the system derived from those postulates is actually self-critical in those respects in which it itself implies it must be. One of the characteristics which in that paper I showed such a system will possess if it is self-critical is that (1) it will be able from within itself to anticipate and refute all external criticism. Further (2) such a system will make a consistent use of terms, deriving their definitions from its own postulates, and using them as so defined in other definitions as well as in the original postulates; (3) it will be free from contradiction both of part by part and of part by whole and conversely—two rather obvious demands; (4) it will apply to itself, and (5) it will incorporate in itself its own presuppositions. It is, however, with the specific purpose of demonstrating that the system then laid down fulfils this first mentioned self-implied demand that I offer my present paper for your consideration.

The principle around which I shall make my demonstration turn is: A system refutes external criticism if opposed systems are rendered self-refuting by the use of the contradictories of certain principles which not only presuppose themselves, but which, when used in connection with other principles, make that system itself self-critical. In making this demonstration, I shall, of course, also regard and so use certain results as established by the analysis and arguments of the previous paper. Among

[1] Read before the American Philosophical Association, New Haven, December 27–29, 1909.

[2] 'The Postulates of a Self-critical Epistemology,' PHILOS. REVIEW, Vol. XVIII, pp. 615–641.

these, as important for the present paper, are (*a*) the two logical criteria of self-evidence: namely, (i) that that which presupposes or applies to itself (materially) is true, and (ii) that that which is presupposed by its own denial is true; and (*b*) the principle (iii) that truth is independent of proof. Each of these applies to itself and to each of the others, thus fulfilling the demands which each implies it must fulfil.

In my previous paper I showed that a system, in order to be self-critical, must accept (i) the infinite regress as involving no contradiction either in its implication or the feasible mode of its treatment, and (ii) the so-called 'external view' of relations.[1] The meaning, bearing, and importance of these two doctrines will become clear as I proceed. They and their contradictories constitute the pivotal point around which my demonstrations will turn, and this for no arbitrary, but for logical reasons. Thus I shall show that from the contradictory of the 'external view,' namely, that from the view that relations are 'internal' to their terms, certain typical self-refuting systems are really logically derived, with the result that opportunity is given for a logically genetic classification of systems. But I shall show that this 'internal view' presupposes its contradictory and so refutes itself. Therefore systems constructed by its use will be self-refuting, and will stand refuted by a self-critical system *en bloc*. The meaning of the 'external view'[2] and its connection with the infinite regress will be made clear by an examination of the 'internal view.'

The Internal View.

A. *Arguments.*—There are really only two typical arguments for this view, which, of course, concerns the question as to how a relation can relate. Each argument aims to establish the 'internal view' by a *reductio ad absurdum* of the contradictory,

[1] In order to be self-critical the system must also accept discontinuity as a fact in the realms both of existents and of subsistents; *i. e.*, it must grant that there are other 'origins' like its own.

[2] It seems almost superfluous to explain that I use 'external' as by no means having only a spatial connotation or as denoting only that which is spatial. I use the term in what seems to me to be its quite generally accepted meaning in accordance with which a relation of any type whatsoever is 'external' to its terms. This is, for example, Russell's use in his *Principles of Mathematics*.

the 'external view,' and each depends on what is regarded as an objectionable implication of the infinite regress which this 'external view' involves. Common to both are two assumptions, usually made tacitly, and each really self-contradictory, as will be shown later, which, together with the conclusion implied by them, constitute that which I shall call for the sake of logical order syllogism 1. The minor premise here, since, as presupposed, it is found in a number of these syllogisms which make up the logical structure of phenomenalism, may be regarded as the basic logically generating principle of that position. Why this is so will become evident as my analysis progresses. We have, then, as formed by these two assumptions and the conclusion which they imply,

Syllogism 1, I. The infinite regress can be treated only by enumeration.

II. That which can be only so treated is always incomplete.

III. Conclusion. The infinite regress or that which involves it is always incomplete.

This syllogism constitutes a basic and very fundamental part of the logical structure of both phenomenalistic and absolutistic systems, as will gradually become evident. It is clear, however, that, in presenting this and the subsequent syllogisms which constitute the logical structure of generic self-refuting systems, I myself am neither putting in something, only, Spinoza-like, to draw it out again afterwards, nor pursuing a deductive as opposed to an inductive method. On the contrary, results are given which have been discovered by inspection, analysis, or induction; generalizations, logical laws of systems, presuppositions are presented, and not the method of their discovery. Accordingly there is given that which the adherents of certain systems themselves really, though perhaps tacitly, 'put in' as the real logical presuppositions for those conclusions which they ultimately draw. These presuppositions constitute part of the logical structure of the systems considered, but by the adherents of these systems they are either ignored altogether, or, if not this, they are deprived of an exact formulation by the obscuring allurements of a softer mode of statement. It is full time, then,

that they should be brought to light and be stated succinctly and exactly in order that they may be either accepted or rejected, and opportunity furnished for philosophical advance and a real joining of issues.

In accordance with the conclusion of the above syllogism it is held, now, that, in order to establish the 'internal view' (indirectly), it remains only to show that the opposed 'external view' involves the infinite regress and so is incomplete, etc.

Argument I aims to do this as follows:[1] Assume, in accordance with the 'external view,' that a relation is 'external' to the terms which it relates, *i. e.*, that it is an entity. Then, with the relation an entity, there must be two other relations to relate the relation to its terms, and so on in an infinite regress. But the further result is, then, since by the above conclusion the regress is always incomplete, that the terms are never related. Therefore, in order that the relation shall relate, it is not and cannot be an entity. Q.E.D.

Argument II: This simply carries Argument I one step further; the incomplete is identified with the imperfect, and the imperfect with mere appearance. Then, that which involves the regress implies the impossibility of genuine knowledge. But the 'external,' the 'entity' view does this. Therefore it is inhibitive of genuine knowledge. In order, then, that there may be real knowledge the relation cannot be an entity. Q.E.D.

The 'internal view' is held, then, to be established by this *reductio ad absurdum* of its contradictory, the 'external view,' *i. e.*, the conclusion is reached, that, since a relation cannot be an entity, it must either penetrate its terms or be mediated by a deeper underlying or a higher transcendent reality. This binary conclusion constitutes the 'internal view'; common to its two aspects is their opposition to the 'entity view.' Each interpretation, however, constitutes part of the logical structure of a typical generic system.

B. *Criticism of the Arguments.*—I. Inspection of these arguments shows clearly that each of them pivots on the assumption,

[1] I state each argument as rigorously as possible, although, of course, I accept neither, since each is shown by subsequent criticism to be fallacious.

used as a minor premise, that 'the infinite regress can be treated only by enumeration,' and therefore, of course, also on the conclusion that 'that which involves this regress is always incomplete,' etc. But not only need this assumption not be granted, but it is really self-contradictory. Yet, notwithstanding its self-contradictory character, this assumption, as will be shown later, is the major premise of the whole phenomenalistic argument. The recognition of this character carries with it the understanding of the source of the far-reaching evil consequences resulting from the tacit though actual presupposition of the principle. The principle is self-contradictory; for, on the one hand, it is well known that there is another, indeed the only practicable method of dealing with the infinite regress, the method, namely, of 'intension.'[1] This is simply the method of dealing with the regress conceptually, *i. e.*, by using the principle of its generation in any instance, more abstract or less so. But this method is really employed in discovering the bare implication of the regress; for, if it were discoverable only by enumeration, it could never be discovered. Therefore, on the other hand and further, the assumption that 'the infinite regress can be treated only by enumeration' presupposes its contradictory, the method of 'intension,' as the condition for, and in the very fact of the discovery of that regress concerning which the assertion is made.

II. But this method of 'intension,' which is thus shown to be presupposed in the arguments against the 'external view,' in turn presupposes this very view; for even the discovery that a relation between two terms implies two other relations, and so on in an infinite regress, is identical with knowing the real character of that relation and its terms in just this respect. This means that the relation between two terms can be known and stated correctly although there is the implication of the infinite regress; it must be known in order to discover this implication; therefore it can be known and stated correctly notwithstanding this implication. But the condition which makes all this possible is that the relation is 'external' to its terms. Therefore the arguments against the 'external view' and in favor of the

[1] Cf. Russell, *Principles of Mathematics*, in various places.

'internal,' since they make tacit use of the method of 'intension' in discovering and in dealing with the infinite regress, indirectly presuppose that which this method involves, namely, the 'external view.' The general conclusion is that the 'internal view' presupposes its contradictory; indeed taken as a view, and not as a truth, it presupposes that relations are 'external' to their terms. Therefore the 'internal view' is only a view, an opinion. Its contradictory, the 'external view,' is also true knowledge of what is a fact, subsistent and existent. Indeed it will be found shortly that the 'externality' of a relation to its terms is presupposed as the very condition for there being such a thing as genuine knowledge at all, be it of a so-called 'internal' or of an 'external view,' or of any theory whatsoever, taken as a subsistent.

But the above is not the only way in which the 'internal view' can be shown to presuppose its contradictory. The fact is that it refutes itself in a number of respects, for the attempt to carry it through meets with any number of contradictions. Thus, to demonstrate some of these, if the 'internal view' is interpreted to mean penetration of the terms and so modification, then the presuppositions are made (1) that the terms are there to be modified, and (2) that this modification, etc., can be stated without having the statement, which is, of course, related to the asserted modification, modify this modification. But here the 'external' character of the relation is presupposed; for it is tacitly assumed, on the one hand, that the two terms in relation, namely, the assertion and that which it denotes, are not thereby or therewith modified, and, on the other, in accordance with the actual assertion, that the terms, as constituting the content or denoted elements of the assertion, can be known (correctly) as terms-which-are-to-be-modified. And again self-refutation characterizes the other interpretation, namely, that a relation implies an underlying or transcendent reality[1] of which the terms are manifestations, etc; for herewith it is tacitly assumed that both term and relation can each be known without being modified by the knowledge and notwithstanding the infinite regress of subordinate relations which are implied. Thus I conclude that in a number of

[1] Hereafter, for the sake of brevity, I shall refer to this as the 'underlying reality' interpretation.

ways the 'internal view' presupposes its contradictory and so refutes itself. Accordingly the presumption is that metaphysical systems constructed by its use will also be self-refuting.

Logically the next step in my general procedure should be to show that certain very typical systems are actually derived from the 'internal view' and from that which it presupposes, namely, and especially, premise I of syllogism I.

THE LOGICAL DERIVATION.

The first step in this demonstration concerns knowledge and knowing, as subsistent and existent respectively, and their object or content. Now the 'internal view' is interpreted to mean either (1) that the relation penetrates its terms, or (2) that it is mediated by an underlying reality, and again, if it is held to penetrate its terms, this penetration is further held to mean or carry with it or be identical with (*a*) either the modification of the terms, or (*b*) their dependence and the generation of similarity, or (*c*) the generation of a contradiction. Obviously, then, if it can be shown that knowledge necessarily involves a relation to its object or content, this relation can be interpreted in any one of the above four ways, not correctly, of course, but yet as nevertheless conditioning in each case a distinct type of metaphysical system. To prove, then, that knowledge always involves relation to its object, it is assumed, as constituting the premises of,

Syllogism 2, I. That everything is related to everything else, and,

II. That knowledge and knowing are undeniably something. It follows, then,

III. That knowledge is related to everything else, including its object, and conversely.

Indeed the same conclusion is obtained indirectly by denying this last proposition. Thus the assertion that there is no relation between knowledge and its object asserts or presupposes what at least the minimum character of this relation is: there is, at least, the relation of diversity. Indeed 'that knowledge is related to its object' is a proposition which is presupposed by both itself

and its own attempted denial, *i. e.*, it is true in accordance with the two logical criteria of self-evidence.

The question arises, then, as to what the character of this relation is, and the logic by which this question is answered forms the logical structure of different systems. The first system whose structure I shall present is generic phenomenalism; *i. e.*, I shall give that structure which, since it is presupposed, really conditions all such specific phenomenalistic systems, partial or complete, as, for example, those of Locke, Kant, Lotze, Green, Joachim, etc.; these specific phenomenalistic systems are really logically derived from the generic system through the addition of certain differentia. Accordingly I direct my criticism, perhaps with a seemingly immodest intrepidity, against all and any phenomenalism whatsoever.

PHENOMENALISM.

The peculiar and distinguishing characteristics of generic phenomenalism are that it insists and endeavors to demonstrate (1) that modification is necessarily involved in the knowing process, and (2) that, by virtue of a certain characteristic of knowing, we can never know what reality would be like as not known, *i. e.*, as unmodified by knowledge, or as a thing-in-itself.

As regards the structure of or argument for this position, now, it is held that evidence for the 'modification interpretation' of the 'internal view' can be obtained inductively from such typical cases as the following: Let there be one material particle in space; it would be without weight; let a second particle come into existence; then each particle would acquire weight by virtue of the attractive force from the other, so that each would be to that extent modified. Such typical cases are used, now, to show (1) and generalizing, that two terms in relation modify each other, or (2), and generalizing still further, that the 'internal view' is true.

Concerning the example, however, at least two criticisms can be made, (1) that it is falsely stated, *i. e.*, that it is not in agreement with the exact mathematical treatment of the 'Newtonian force-function' as found in authoritative treatises,[1] and (2) that yet,

[1] Cf. Webster, *The Dynamics of a Particle*, in various places.

as so stated, falsely, which is, however, the form in which it is actually used,[1] it accepts a principle which is generally most repulsive to thinkers of the rationalistic type, namely, that 'something appears out of nothing'; this is implied in having the modification, the new quality, appear.

I have now reached the point where the positive and yet really self-refuting logical structure of generic phenomenalism can be stated. I state it first, and criticise it afterwards. The criticism will show clearly that this positive *superstructure* presupposes as a further structure or real foundation certain principles which, while they are not explicitly admitted in the phenomenalistic argument, nevertheless are present logically and render it self-refuting. First, then, I will give simply the actual structure without tracing this back to its more ultimate premises. This structure consists of two syllogisms. In the first of these it is assumed that the general 'internal view' has been established by the arguments above given, or, more specifically, that the so-called inductive procedure given just above shows that the 'internal view' means that a relation penetrates its terms and so modifies them, *i. e.*,

Syllogism 3, I. That that which is related to another term is modified by that term. Now let this be the major premise, and let the minor premise be the conclusion established previously,

II. That the known object is a term which is related to another term, knowledge. From these there follows the conclusion, as one essential part of the phenomenalistic position,

III. That the known object is modified by the knowledge of it.

This is the logical structure of one aspect of generic phenomenalism; in accordance with it the knowing relation is to be defined as meaning or necessitating modification. Evidently, however, this definition is conditioned by the major premise.

The second syllogism employs as a major premise a principle which should be noted carefully, since it will be criticised severely later, namely,

Syllogism 4, I. That that which is implied in an infinite regress cannot be eliminated. Next, for a minor premise, appeal is made to the Cartesian principle,

[1] Cf. Royce, *The World and the Individual*, Vol. I.

II. That knowledge or *cogitans* is that which is implied in an infinite regress. From these premises it is concluded, of course,

III. That knowledge or *cogitans* cannot be eliminated.

Now as concerns this argument, it may be said, that, while the minor, the Cartesian, premise must be granted, the major premise, from which the predicate of the conclusion is derived, cannot be; for the demonstration can be made, and will be shortly, that it presupposes certain other principles which contradict that which it itself asserts; thus it is found to be self-refuting as well as to involve a most serious confusion. The elucidation both of the self-refutation and of this confusion will show us a way, then, by which this conclusion can be avoided. But the recognition of these presuppositions and of the self-refutation and confusion in phenomenalism which they involve is, of course, itself not a characteristic of the positive superstructure of that theory. Rather, that superstructure is erected by making use of the conclusion just attained in combination with the previous one. By the preceding argument the conclusion was reached,

Syllogism 5, I. That knowledge necessarily involves or = modification. By that just given it is supposed to be shown,

II. That knowledge cannot be eliminated. Combining these two, the conclusion follows, as constituting *the final distinguishing characteristic and fundamental position of phenomenalism*,

III. That the modification involved in knowing can never be eliminated, *i. e.*, that things can never be known as if they were not known and as they really are, but that only appearances can come within our ken.

Now this is a most disastrous conclusion, disastrous even to itself; for, in accordance with it, how can the conclusion itself be that true knowledge of knowledge which it pretends to be? This comment indicates the character of much of my subsequent criticism. It is an important question, then, whether or not this disastrous conclusion can be avoided. Now the demonstration that it can be depends upon the possibility of showing beyond a doubt that the argument by which it is derived is invalid in one or more respects, but it is just this demonstration that can be made. In fact the argument can be shown to be invalid to

the extent of refuting itself at a number of points, in the conclusion, indeed, as well as in the premises.

EXAMINATION OF THE ARGUMENT.

Examination of the first argument, by which knowledge is made to imply modification, shows that this conclusion is conditioned by the premise, the major, 'that a relation modifies its terms,' which is one interpretation of the 'internal view.' The minor premise, 'that knowledge is related to its object,' must be granted. But the 'internal view' has been previously found to presuppose its contradictory and so to refute itself. Then, *a fortiori*, a theory based on it, will refute itself. This demonstration is of itself sufficient to show that phenomenalism is self-refuting. But in order to clinch such a demonstration I prefer to submit other proofs to the same effect also. To this end I recur to the major premise of the 'second' argument, the premise, namely, 'that that which is implied in an infinite regress cannot be eliminated.' Now, of course, this premise is itself a derived proposition, and by showing what its presuppositions are, it can be shown not only to be itself directly self-refuting, but also to involve a most serious confusion. In this way the further actual logical structure of phenomenalism is made evident.

Now it can be shown that this premise is derived from that gratuitous and self-contradictory assumption 'that the infinite regress can be treated only by enumeration.' This assumption contradicts itself; for, were enumeration the only way of treating a regress, then could no infinite regress be discovered. But the assumption already asserts the regress for whose discovery some non-enumerative method, namely, that of 'intension,' is presupposed. Therefore the assumption is self-contradictory.

But nevertheless let the principle be assumed, as it really is, tacitly, by the phenomenalist; then, with the only method that of enumeration, it follows 'that that which is implied in an infinite regress cannot be eliminated.' But this is the very major premise under discussion. It is derived, then, by psychologically ignoring the method of 'intension,' which is, nevertheless, logically presupposed for the discovery of the infinite regress which

is asserted. But it has been previously found that by this 'intensional' method, which consists in dealing with the very generating relation of the regress, 'that which is implied' can be eliminated at any step because it is at the very first step in *discovering* that this is such a step as generates a regress. However, given the 'implication' of the regress, then 'that which is implied' cannot be denied.

Accordingly, as concerns this major premise of the above 'second' syllogism then, both the fact and the source of the confusion with which it is identical, and the means for avoiding this are made quite clear. The confusion consists in failing to distinguish that which is distinct, namely, 'implication' from 'that which is implied,' and elimination from denial. The 'implication' of the regress cannot be eliminated, but it can be denied; on the other hand, while 'that which is implied' cannot be denied, it can be eliminated. The means for recognizing the fact of the confusion and the distinctions which should be made is the method of 'intension'; indeed, the very logic of this method implies them. But it also makes clear the source of the confusion, namely, that it is in the assumption of the contradictory method or proposition, to the effect 'that the infinite regress can be treated only by enumeration'; for if this assumption is made, it demands that the subjects of the two previous propositions, derived from the method of 'intension,' be interchanged, so that there result the two propositions contrary to fact, (1) that 'that which is implied' in an infinite regress cannot be eliminated, and (2) that the 'implication' of the regress cannot be denied. But not only does this assumption presuppose its contradictory, the 'intensional' method, but it is contrary to fact; for we actually have this latter means of dealing with, indeed of discovering the regress. Therefore the two propositions above are contrary to fact, and the means for avoiding them as conclusions lies in the acceptance and use of that which they themselves ultimately presuppose willy-nilly, namely, the method of 'intension.' But they are directly derived from the contradictory assumption 'that the only method of dealing with the regress is by enumeration.' However, it is from this assumption that the 'internal

view' is also derived. Therefore, on the one hand, they are genetically connected with the 'internal view,' and, on the other, together with it, indirectly refute themselves in that they are derived from a self-refuting premise.

But the premise under discussion can also be shown to directly refute itself, *i. e.*, it can be shown that it does not apply to itself, but presupposes, as a condition for holding it to be true, exactly those distinctions which have been shown above to imply its contradictory. Thus, to demonstrate this, let the premise be assumed to be true. Then, since it is a known proposition, there is (1) knowledge related to its object, and (2) knowledge again of this, and so on in the infinite regress of *cogitans*. This implication is given, as Descartes showed, with the attempt to deny the *cogitans*. Then the 'implication' cannot be eliminated, and this is identical with the impossiblitiy of denying *cogitans* as 'that which is implied' in an infinite regress. Yet, unless 'that which is implied' in an infinite regress can be eliminated, *it can never be known* that *cogitans* is itself that which presupposes itself and so generates the regress. Therefore *to know* that there is a regress of *cogitans* presupposes that from *this knowledge* all other *cogitans* is eliminated; but it is not possible to get this knowledge by enumeration, but only by the method of 'intension.' By 'intension,' then, 'that which is implied' can be eliminated. As applied to the premise under discussion, all this means that in the assumption or knowledge that this premise is true, it is presupposed that the *cogitans* as 'that which is implied' in an infinite regress is nevertheless eliminated. But this is the contradictory of the premise itself. Therefore it refutes itself directly.

THE SYLLOGISMS PRESUPPOSED.

Now all this will be made clearer; indeed, as an analysis and criticism, it can be confirmed and demonstrated by the formulation both of those syllogisms which are directly, though tacitly, involved in the phenomenalistic argument, and those which, as based on premises which are logically self-consistent, demand the distinctions referred to. Of these syllogisms, now, there are four: two of them, as based on premises which (1) assert the

use of the 'intensional' method, (2) accordingly apply to themselves, and (3) are presupposed by the corresponding premises of the other two syllogisms, are true. They demand the distinctions referred to, and make it possible to avoid the phenomenalistic conclusion, since they are ultimately presupposed by it. The other two syllogisms correspondingly are false, in that they are made up of the contradictories of these self-consistent premises, *i. e.*, of propositions which refute themselves. But these are nevertheless the syllogisms which are actually used in the real phenomenalistic superstructure. Their arbitrary and self-contradictory character will be made quite apparent by formulating, first, the two 'true' syllogisms in contrast to which they are formed.

Now the key to the solution of the whole problem here at issue consists in the recognition of the fact that, with the discovery of the 'implication' of the infinite regress of 'that which is implied' possible only by 'intension,' there is given at one and the same time the impossibility of eliminating the 'implication' and of denying 'that which is implied,' and the possibility of denying the 'implication' and of eliminating 'that which is implied.' These distinctions are demanded by the only method, that of 'intension,' by which the infinite regress in either sense can be discovered; accordingly they should be observed in arguing about the infinite regress.

The first 'true' syllogism really concerns simply the question of fact as to whether or not in any particular case there is the 'implication' of the regress; that there is may be denied, but if the 'implication' is discovered, then it cannot be eliminated. The question here concerned, then, is one of fact, the fact of discovery. Accordingly we have,

Syllogism 6, I. That which is treated by 'intension' cannot be eliminated, although it may be denied. Comment: This premise applies to itself; for, given the discovery of the law or generation, *i. e.*, the 'implication' of 'that which is implied' in an infinite regress, its 'treatment' is already given, presupposed or involved; but this 'treatment' = the means of discovery = the method of 'intension.'

II. The infinite regress (meaning in this case the 'implication') can be treated only by 'intension.' Comment: This premise applies to itself; for the treatment by 'intension' which it asserts is identical with it, in that it is the only way by which the infinite regress, which is asserted, can be discovered; the premise is, then, consistent with its own assertions.

III. Conclusion: The 'implication 'of the infinite regress cannot be eliminated, though it can be denied. Comment: This conclusion, like its premises, applies to itself and is consistent with itself, *i. e.*, it both presupposes itself and is presupposed by its own denial, as will be seen shortly. It is true, then, by the two logical criteria of self-evidence and so is a logically self-evident proposition. Indeed that this is the case is made quite clear by the determination of its meaning, which is, manifestly, that, with the 'implication 'of the infinite regress given by its being discovered in any particular case by 'intension,' it cannot be eliminated. Briefly, its 'givenness' is identical with its discovery and this with the method of 'intension'; then, since the method of discovery can only be used and not eliminated, that with which it is identical, namely, the 'implication' of the regress cannot be eliminated. In any particular case, however, the attempt to discover this 'implication' may fail; then it can be denied.

With, now, the 'implication' of the regress discovered in any particular case, indeed with the bare 'implication' discovered, then, by the very method by which this discovery is made, 'that which is implied' can be eliminated, although it cannot be denied; for that this is the case is presupposed as the very condition for discovering that which cannot be eliminated, namely, the 'implication' of the regress. For, since 'that which is implied' in an infinite regress, namely *cogitans*, is presupposed as eliminated in the very first step in discovering that there is the 'implication' of the regress, then it is presupposed that in general 'that which is implied' can be eliminated at any step of the regress in any instance of the 'implication.' The syllogism by which this is shown, is, then, of the highest importance. For, on the one hand, since its premises are propositions which are presupposed

by the attempt to deny them, its conclusion should be and is of this character also; but, on the other, it is just this conclusion whose formal denial constitutes one of the distinctive premises of the phenomenalistic argument. The syllogism makes clear, then, not only how the ultimate conclusion from this argument can be avoided, but also that it must be avoided, since it presupposes premises contradictory to its own, which lead to a conclusion also contradictory to itself. All this will become clearer by formulating the second 'true' syllogism, which is in the series,

Syllogism 7, I. That which is treated by 'intension' (*i. e.*, that which is found, with the discovery of the 'implication,' to be 'that which is implied' in an infinite regress) can be eliminated, although it cannot be denied. Comment: This proposition applies to itself; for the treatment by 'intension' is itself identical with the means for discovering the 'implication' of 'that which is implied,' and itself involves the elimination, in one case, of 'that which is implied' in an infinite regress, namely, in the case of the regress of *cogitans* which starts from the discovery itself = *cogitans;* therefore it is implied that the elimination is possible in any case, even in the attempt to discover the contradictory. With the discovery of the 'implication' once made, however, then 'that which is implied' cannot be denied. Now the minor premise is,

II. The infinite regress (meaning 'that which is implied' in this regress) is that which is treated by 'intension.' Comment: This premise also applies to itself; for it means that the same method which serves as a means for discovering serves also for treating 'that which is implied' in an infinite regress.

III. Conclusion. 'That which is implied' in an infinite regress can be eliminated, although it cannot be denied. Comment: Quite evidently this conclusion, like its premises, applies to and is consistent with itself, and this is of great importance, since the possibility asserted is of the greatest importance. But it is, of course, in respect to just this possibility that the proposition applies to itself; for the treatment by 'intension' of 'that which is implied' is already involved in, or is identical with, the means of discovery of the 'implication.' With this discovery made,

then, on the one hand, neither can the 'implication' be eliminated nor can 'that which is implied' be denied; but on the other it itself presupposes that 'that which is implied' can be eliminated; for this elimination is already made in the case of *cogitans* (as that which is implied both by itself and its own denial) in order that the 'implication' may be discovered. Indeed the discovery (?) that this was not the case presupposes that it is.

That in every case discovery of things as they are presupposes or is identical with the elimination of 'that which is implied' in an infinite regress, namely, *cogitans*, is itself, then, a proposition which is presupposed both by itself and by its (attempted) denial. Then, *a priori*, the same elimination is possible in every similar case, and by the same method. But this method is that of 'intension,' which consists in discovering the 'implication' by discovering the generating relation of 'that which is implied'; then by this method 'that which is implied' can be dealt with or treated in the sense that it can be eliminated at any step because it is eliminated, in the case of *cogitans*, at the very first step in discovering that there is such a step as generates a regress.

The principle stated by the conclusion is, then, of great importance, because, at the same time that it applies to itself, etc., and so is logically self-evident, it makes possible a self-consistent definition of discovery and of genuine knowledge, and, in accordance with these, indicates clearly a thoroughly efficient means for solving that which has been historically one of the most difficult problems in philosophy, and on the basis of whose apparent insolvability the great majority of modern philosophical systems have been erected. That problem or difficulty, as it has really been created (artificially), concerns the problem of knowledge, and rests on the seeming impossibility of eliminating *cogitans* in any or all of its aspects. Such an elimination is a desideratum, since, with it accomplished, things could be known as if they were not known, *i. e.*, as they really are. But, as against this possibility it is held, in creating this problem,[1] that, although it is possible in every other case to know what a term would be by itself and as unrelated to any other term, this is impossible in

[1] Cf., for example, Royce in his 'will-attitude' theory.

the case of the knowing relation, since such an attempt reinstates the very term to be eliminated, namely, the knowing. Briefly, it is held that the *cogitans* cannot be eliminated, since it is presupposed by the very attempt to do this. This artificially created difficulty or problem constitutes the core of the "ego-centric predicament,"[1] which, according as one or another of the aspects of *cogitans*, intellectualistic, emotionalistic, or voluntaristic, is selected for emphasis, is given different forms, with a resulting outcome in phenomenalism, or in pragmatism in certain of its aspects, or in the will-attitude theory. But that the problem is artificial, and that the way to solve it is to do away with it, are each made evident and demonstrated by simply recognizing that which is tacitly presupposed in holding that it is a real problem, even for the reasons assigned. Thus, to know that it is a real problem, presupposes not only that all other *cogitans* than this one, but also that this one too, since it is a member of the series of *cogitans*, is eliminated. Briefly, to hold that it is a real problem presupposes its contradictory. And to assign the reasons for its being a problem, namely, that there is the 'implication' of 'that which is implied' (*cogitans*), is to make use of the very method, that of 'intension,' by which 'that which is implied' can be eliminated. The failure, then, to make a consistent use of this method, which is presupposed by the very attempt not so to use it, creates and makes the problem artificial. On the other hand, the consistent use of this method demands that we distinguish that which is really confused in the problem, namely, 'implication' and 'that which is implied,' *and* elimination and denial, and solves the problem by doing away with it. In this way the "ego-centric predicament" is rendered quite harmless through the recognition and proof that it is not a real predicament, and the way to a thorough-going realism is opened up and freed from all but imaginary obstacles.

In contrast, now, to these two 'true' syllogisms it is of both interest and value to consider the two corresponding 'false' syllogisms—of interest, because they reveal the self-refuting yet

[1] Cf. Perry in his paper entitled 'The Ego-centric Predicament,' *Journal of Phil., etc.*, Vol. VII, p. 1.

actual logical structure of phenomenalism or of any other system based in whole or part on the seeming impossibility of eliminating *cogitans*—of value, because, since they show how this predicament is got into, they indirectly also show how to keep out of it. That way is the consistent use of those premises (of the previous syllogisms) which, as the contradictories of the premises of these 'false' syllogisms, are nevertheless presupposed by them. The 'false' syllogisms are 'false' because their premises are self-refuting.

Now the first 'false' syllogism shows directly and clearly how the predicament is got into, how it is created artificially; it constitutes part of the structure of phenomenalism. Its major premise is,

Syllogism 8, I. That which is treated by enumeration cannot be eliminated, although it can be denied. Comment: This premise may have two meanings, but in either case it is self-refuting. Thus, if 'to treat' means to count (= enumerate), then, as counted or countable, that which is so 'treated' can be eliminated in just that sense, and the proposition contradicts itself. On the other hand, if 'to treat by enumeration' means to discover, then also does the proposition contradict itself; for enumeration is not a method of discovery, but itself presupposes such a method, leaving open, perhaps, the question as to whether that which is so discovered can be eliminated or not. Briefly, enumeration is not itself a method of discovering that which, whether finite or infinite, can be enumerated. With, however, that which is to be enumerated already discovered, then, of course, it cannot be denied. Therefore in this respect also does the premise again refute itself, since it asserts the contradictory. The minor premise is,

II. The infinite regress (meaning 'that which is implied') can be treated only by enumeration. Comment: This is the same premise, of course, that is tacitly presupposed in the establishment (?) of the 'internal view'; it conditions, therefore, that part of the phenomenalistic structure by which knowledge is made to mean modification. But here it conditions that part of this structure by which it is shown (?) that knowledge cannot be

eliminated. It is, therefore, *the basic principle of the whole positive phenomenalistic superstructure.* But it is a proposition which is self-refuting in that it presupposes its contradictory; for, briefly, if 'treat' means discover or exhaust, then can the infinite regress neither in respect to its 'implication' nor as concerns 'that which is implied' ever be treated by enumeration; however, if once discovered by that other method which is here presupposed, namely, that of 'intension,' then can 'that which is implied' be counted, though not exhaustively. The conclusion follows,

III. That which is implied in an infinite regress cannot be eliminated, although it may be denied. Comment: This is, of course, the proposition which, though conclusion here, is the major premise of the 'second' phenomenalistic syllogism (Syl. 4). Then also does the syllogism by which it is derived form part of the phenomenalistic superstructure. But the premises of this syllogism refute themselves in that they presuppose their contradictories. Then do these contradictories form part of the real *basis* of phenomenalism, a basis which, however, if used consistently makes that position logically impossible. But this conclusion also, as is to be foreseen from its premises, refutes itself; for, briefly, if it is held (discovered?) to be true, then this discovery presupposes the contradictory of the proposition asserted; the discovery presupposes that 'that which is implied' can be eliminated at any step because at that very first step which = the discovery, it is eliminated in the case of *cogitans* as 'that which is implied.' To the further demonstration of the self-refuting character of this conclusion I shall presently recur, because of the important rôle which it plays in the phenomenalistic argument.

For the sake of completeness, now, the second 'false' syllogism, which concerns the 'implication' of the regress, should be given. It is not directly included in the phenomenalistic argument, yet, as implied by the plan of construction of the previous three syllogisms, it reveals the manifestly absurd position—since it is clearly contrary to fact—which phenomenalism is forced to accept. This syllogism represents the attempt to escape the disastrous conclusion of the one just preceding. Thus its major premise is,

Syllogism 9, I. That which is treated by enumeration can be eliminated, although it cannot be denied. Comment: This premise is self-refuting; for, if 'to treat' means to discover, then, as found above, to discover by enumeration is itself a self-contradiction, leaving open the question of elimination. On the other hand, if 'to treat' means to count, then, since to count presupposes something which, either as an existent or as the 'implication' of 'that which is implied,' is discovered as a fact, that which is 'treated by enumeration' cannot be eliminated. If, however, neither existent nor 'implication' is discovered, then, of course, each can be denied, but not by enumeration. The minor premise is,

II. The infinite regress (meaning the 'implication') can be treated only by enumeration. Comment: This also refutes itself; for it is impossible to discover by enumeration the 'implication' of that which can be enumerated when once discovered; a real method of discovery, that of 'intension,' is presupposed. The conclusion follows,

III. The 'implication' of the regress can be eliminated and yet not denied. Comment: The absurdity and self-refuting character of this conclusion is apparent; it asserts the possibility of eliminating that which is *involved* in discovering the very 'thing' which, by the assertion itself, is to be eliminated, namely, the 'implication' of the regress.

PHENOMENALISM: ITS COMPLETE STRUCTURE: SUMMARY.

To return now to the original phenomenalistic argument, this rather long and involved analysis shows how the disastrous conclusion of that argument can be avoided, as indeed it must be, since it is disastrous to itself. That conclusion is 'that things can never be known as they really are, but only as appearances, modifications.' But that conclusion is derived (Syl. 5) from two premises which in turn each presuppose two others (Syls. 3 and 4), *four* altogether, of which two can be granted, since they are self-confirming, while two cannot be, since they are self-refuting. Thus it is to be granted that '*cogitans* is implied in an infinite regress' (Syl. 4), and 'that knowledge is related to its object'

(Syl. 3), but not 'that that which is implied in an infinite regress cannot be eliminated' (Syl. 4), nor 'that a relation modifies its terms' (Syl. 3). It is from these last two premises, then, that the *disastrous* conclusion of phenomenalism is derived. But each of these is in turn a proposition which presupposes other propositions. Thus the last premise is derived by the (indirect) argument for the 'internal view,' this in turn from the conclusion of syllogism 1, and this conclusion from two premises, one of which asserts the possibility of 'treating the infinite regress only by enumeration.'[1] Thus this proposition conditions one branch of the phenomenalistic argument. But it refutes itself; for it presupposes the opposed method of 'intension,' and this in turn involves the 'external view,'[2] so that at this point the phenomenalistic argument turns on itself to become self-contradictory. The other premise, the minor, of syllogism 3 presupposes syllogism 2, both of whose premises are to be granted as self-confirming, and so is itself to be accepted.

But the other branch of the argument also goes back to the same basic proposition and so becomes self-contradictory at the same point. Thus the major premise of syllogism 4 is the conclusion from, and so presupposes the premises of syllogism 8; each of these, however, refutes itself; but one of these, the minor, asserting 'that the regress can be treated only by enumeration,' is the minor also of syllogism 1 conditioning the 'internal view.' *Therefore the two branches go back to the same proposition; then this is the basic conditioning proposition of the whole argument.* Q.E.D.

But this proposition, the minor in syllogisms 1 and 8, and each of the two majors refute themselves in that each presupposes the contradictory of that which it asserts. But that which in general is presupposed by each is the method of 'intension' and the 'external view.' But this 'method' and 'view' demand the distinctions between 'implication' and 'that which is implied'

[1] The other premise, ' that the infinite regress is always incomplete,' also refutes itself since it presupposes the method of ' intension ' by which the regress is complete.

[2] This method and view are presupposed both by themselves and by their attempted denial, so that they are true by the logical criteria of self-evidence.

and between elimination and denial, and give syllogisms 6 and 7. Then are these syllogisms with their conclusions also actually presupposed by phenomenalism. But one of these conclusions, that of syllogism 7, asserts the direct contradictory of the major premise of 4. Thus it is shown not only *how* that which in the conclusion of syllogism 4 is asserted to be impossible, namely, the elimination of *cogitans*, *is nevertheless possible* both for it and for anything else which is implied in an infinite regress, but also it is shown that this must be possible and actual; consistency demands it. Likewise in the case of the other branch of the argument it becomes clear not only how the conclusion of syllogism 3, that knowledge = modification, can be avoided, but that it *must be avoided* in order to be consistent with that which it presupposes, namely, the 'external view.' By a consistent use, then, of that which the two branches ultimately presuppose, the way is opened up not only for the avoidance of the phenomenalistic conclusion, but for its annihilation, and for a corresponding insight into the character of true and genuine knowledge and discovery as well as into the means of obtaining this in a realistic science and philosophy.

PHENOMENALISM APPLIED TO ITSELF: CONCLUSION A.

But not only can the disastrous phenomenalistic conclusion be thus avoided, but it must be avoided on penalty either of disaster to itself or of an inconsistency which is equally disastrous. *For phenomenalism is a self-refuting system.* It has already been shown to be such by the above demonstration that it is based on premises which presuppose their contradictory. But that demonstration can now be completed and the theory be submitted to a crucial test by putting it into the crucible of its own conclusion.

Thus all along the line, both as regards this conclusion and its premises, the phenomenalist tacitly assumes that his knowledge is correct and genuine. But therewith he tacitly assumes that, although premises and conclusions and all that they involve, such as infinite regresses, etc., are related to knowledge, they are not thereby modified, and that, although this knowledge itself gen-

erates an infinite regress of *cogitans*, this is, as 'that which is implied,' eliminated. As a condition for his own assumed correct knowledge, then, the phenomenalist tacitly assumes the 'external view,' and, for eliminating the members of the regress of *cogitans* which his own *cogitans* generates, the 'method of intension.' But this 'view' and 'method' are the contradictories of those assumptions or doctrines by which his theory is erected. Therefore his theory refutes itself in respect to those very conditions which are presupposed in order to hold it to be true.

Now if the phenomenalist is tempted to shy at this last conclusion or to scorn it, I ask him, in order that he may demonstrate the sincerity of his belief in his own theory, to come forward into full public view and apply his theory to itself. Since, by way of meeting him half way, I am willing to make all my preceding criticism pivot on this one issue of self-application, with which it is really identical, I not only ask, but I challenge the phenomenalist to accede to my request.

Now the challenge cannot be ignored. At least, consistency demands that it be accepted. For phenomenalism is a theory of knowledge, and yet it is itself, supposedly, correct knowledge. Then it itself implies that it should apply to itself, and this without contradiction, as a test for its being a really correct and true theory.[1]

Let the phenomenalist, then, accept my challenge, as he must do if he is consistent, and what is the result? It is, on the one hand, that by his own theory his own knowledge of his own theory is a knowledge only of that which is appearance, and yet, on the other hand, that he can never know whether this is real appearance or not, because the modifying effect of knowledge can never be eliminated. And, again, by his own theory he cannot know that even all this is the real state of affairs, and so on in an infinite regress. Thus the theory, when applied to itself, as it must be, simply annihilates itself in that infinite regress, which it implies, of an appearance which can never be known either to be or not to be *real* appearance. And yet this is the one consistent development from the premises, namely, syllo-

[1] See my 'Postulate II,' *Ibid.*, PHILOS. REVIEW, Vol. XVIII, No. 6.

gisms 1, 2, and 8, with which it starts, a development, however, which annihilates its own premises.

If, now, the attempt is made to escape this regress of self-annihilation, and in this as well as in the laying down of the premises and the development of the conclusion a genuine knowledge is assumed, then this can be done only at the expense of tacitly introducing certain presuppositions, namely, the 'external view,' the method of 'intension,' and syllogisms 6 and 7, which are inconsistent with the phenomenalistic conclusion, and which, if employed *consistently*, lead to a completely non-phenomenalistic, indeed to a thorough-going realistic system.

Accordingly I may repeat my challenge in the following form, by which the phenomenalist is put in a serious dilemma. Briefly, I challenge him to be either consistent or inconsistent. If he choose the latter, which he tacitly does in holding the theory to be true by one set of principles and in developing it by another set, and also in not applying it to itself, then his theory is self-refuting. On the other hand, if he choose consistency, then this demands either that the system be applied to itself, or that the principles, which the holding of it to be true presupposes, be used for the development of a system. But in the former case, as we have seen, the system annihilates itself, while in the latter it becomes or, rather, *is* non-existent logically. But the phenomenalist must be either consistent or inconsistent. Therefore his system either refutes itself, or it annihilates itself and is non-existent. *In any case, then, phenomenalism is logically impossible.*

DERIVATIVE SYSTEMS : CONCLUSION B.

At this point, then, I may recur to my main purpose and argument, as stated in my introduction, and assert, in accordance with the principle there laid down, that, since generic phenomenalism is a self-refuting system, as erected by the use of the 'internal view' and of the method of enumeration as applied to the infinite regress it already stands refuted by a system which is rendered self-confirming by the use of the contradictories of these two doctrines, namely, the 'external view' and the 'method of intension.'

Accordingly, to refute a number of subordinate systems, which is the next logical step in my main argument, it is necessary only to derive them from this generic phenomenalism. But such a derivation is not difficult. Thus, to accomplish it, let us consider (1) the 'modification,' which, by the 'internal view,' is held to take place in the direction of subject to object, and (2) let us neglect the modification which, if one be consistent, might equally well be admitted to exist or take place in the opposite direction. The result is that the object must partake of the character of the subject; briefly it is mental or psychical. Thus a generic Idealism is derived. Now, further, (3) let some aspect of the subject as supposedly constituting its most fundamental feature be selected; then the object will be of *its* nature. In this way, now, is our generic Idealism actually further differentiated. Thus the selection of feeling as the fundamental feature of the self gives, by this argument, subjective Idealism . . . Berkeley; that of self, gives Transcendental Idealism and Ontological Absolutism . . . Fichte, Hegel; that of will, gives Ontological Voluntarism . . . Schopenhauer, Nietzsche, while the original phenomenalism remains distinctly Kantian. All of these are systems which, of course, as is evident from their logical origin, are based on the supposed impossibility of eliminating the subject, the knower . . . *cogitans* (cf. Syl. 4). All, therefore, involve the false and artificial "ego-centric predicament."

I conclude, then, that all these specific (personal) derived systems, because of their logical genesis as variants of a generic phenomenalism, are, like it, logically impossible from the standpoint of consistency, and therefore, also, that they, like it, as self-refuting systems, stand already refuted by that self-critical, self-confirming system which proves to be identical with evolutionary realism.[1]

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[1] See my previous paper, *loc. cit.*

HOW IDEAS REACH REALITY.

THERE are two current reasons for doubting whether ideas reach reality. One runs as follows: whatever our ideas reach is thereby made part of ourselves; it bears the mark both of 'I-think' and of 'I-will,' or 'I-consent,' and can no longer be identified with the reality as it is apart from this relation. The other runs as follows: there is an inherent discrepancy between certain characters of idea and certain characters of reality; one is universal, perhaps repeatable and abstract, the other is particular and individual; or one is in some respect fixed and rigid, while the other is fluent and changing. Ideas reach only aspects or outlines of reality—that is to say, they do not reach reality.

But the intellect and the will have no other intention than to accomplish what is here called impossible. Reality might in all propriety be defined as the object of the ambition of the mind; and from this point of view some light may be thrown on the nature of that independence and inaccessibility which promises to defeat the intention. The interest which the mind has in seeking its object can hardly be explained without use of the conception of power. In analyzing the practical ambitions of men Hobbes has made clear that we are not content with things, but demand in addition the assurance of things. "The object of man's desire is not to enjoy once only and for one instant of time, but to assure forever the way of his future desire." So that the fundamental impulse of practical nature is "a perpetual and restless desire of power after power that ceaseth only in death."[1] Hence there is a certain superfluity in the scope of ambition. It may be a simple matter to satisfy a desire; but to "assure forever the way of that desire," however trivial, puts at once an enormous burden upon the animal endowed with the fatal gift of infinite foresight. He does numerous things, such as the building of political and religious fabrics, which are not to be explained by a simple egoistic pursuit of separate satis-

[1] *Leviathan*, ch. xi.

factions. In a perfectly analogous manner, the intellect has its superfluities of interest. It acquires, in the attempt to secure its way forever, independence of actual utilities; and forthwith a world of 'independent' objects comes under its view. It is able to consider and define the independent thing; and to call this thing by the name of reality. But this reality still means to it 'power after power'; success in reaching it is called by the same name as is the political success above described—*assurance*. In knowing reality we command the way of our future understanding of the objects at any time present. And here enters the idealistic interpretation of the independent object. If there be any independent being which has and can have no theoretic bearing either upon this present object or upon my future objects, such verbally defined independent being forms no part of the reality we seek to know. Whatever independence the object of knowledge may have, it is not the independence of a savage tribe in America from a savage tribe in Africa; it is rather the independence of a political sovereign in presence of his dependent subjects, an independence from which we have to expect serious consequences, an independence which we must perceive and acknowledge in order to understand the status quo, and in order to command the future. The former type of independence is meaningless to knowledge just as each of the supposed tribes is meaningless to the other's politics.[1]

[1] Given a sovereign, the several inhabitants of a territory are more independent of each other than before, or else less so. That is, — some distant ones are brought into a significance which they had otherwise absolutely lacked; while the adjacent ones are able to ignore the proximity of one another, as otherwise would be impossible. Perfect sovereignty makes neighborhood an indifferent relation. The independence of each other which citizens thus acquire is the counterpart of the nearest approach to a realistic independence which the world of knowledge can show. The kind of independence, namely, which is visible in particular facts, items of information in general, contents of purely arbitrary memory. These fragments bear upon me only by way of the general fact of sovereignty, the reality to which we belong in common; they come but vaguely, distantly, and by virtue of the habitualness of my mind, under the scope of my will to power. Thus arises a doubleness in the meaning which independence may have for the voluntaristic idealist: To say that an object is independent of me may be (1) the other way of saying that I am dependent upon it; or it may mean (2) that the object has no bearing upon my present objects except through the distant medium of 'the reality.' In this secondary and derived sense, independence of *me* means indepen-

But if it has been the fault of realism to give the object of knowledge an independence which makes it meaningless, it can be no sufficient ground for idealism as a positive doctrine to refute a meaningless independence. It is not enough to bring forward the ever-ready "Ich denke, welches alle meine Vorstellungen begleiten kann," or Royce's "Ich will, welches alle meine Vorstellungen verschlucken kann." For while the idealist may say, after the mathematician's fashion: 'Give me any object, however independent, and I will show you an ich-denke, or an ich-will, which can take it in,' the realist may always rightly reply: 'Give me any ich-denke, or ich-will, however capacious, and I will show you an object whose being is independent of that very thought.' For by reflection upon your reflection you rediscover the primitive relation of externality between your mind and its objects; you are unable to make an idea of your idea except by recognizing something which is not that idea. Now philosophy can have no permanent interest in a game of who shall speak last. While if we decide the matter by enquiring who has spoken first, the realist carries the day: the 'first intention' of the mind is that it deals with objects independent of its own thought for their being. And no matter how successful you may be in showing what interest the subject may have in the objects which it finds, this interest is so far *secondary*, in respect to the existence of the independent objects, that it would be precisely the same interest were the objects as different as can be imagined. Your 'ich-will' has no power to determine what the objects shall be; it assumes that they are there to be accepted.

That the original and naïve attitude of the mind to its objects requires to be interpreted, we must assert with idealism. But it seems clear to me from considerations like the foregoing, that the interpretation cannot be so readily found as by taking the object up bodily into the subject, by the reflective turn so universal in idealistic reasoning. The idealist reflection shows successfully that nothing can be real for us in which it is not possible to trace the mark of ourselves and of our interests. But this

dence of *my present objects* — and is mutual. The chair which I do not want I can put out of the room without making any significant difference either to the chair or to the other chairs in the room.

always leaves it possible that the same objects may bear other marks at the same time; and that these other marks are the defining characters of their objectivity.[1] An illustration may serve to make the matter clear.

In geometry, the several points of a figure defined by an equation may be regarded as dependent, in so far as they are under the control of the idea of the equation. Any shape which presents continuity of outline gives evidence of such dependence; and conversely, independence will, in the main, show itself as discontinuity. It would be a rare chance that points independently placed should array themselves in a continuous line or curve; and it is seldom, statistically speaking, that a single equation defines points or lines discontinuous with each other or with the body of the main curve. Any line which crosses a field without reference to what is already there, intersecting what it will and where it will, is an independent line. With this picture of dependence and independence in mind, we might undertake with idealistic eyes to examine the shapes of natural objects. In Nature, our supposed idealist might report, there are no straight lines and no angles. Everywhere if you examine closely enough you find the round, the mark of dependence, the sign of subjection to some center. If the shape in question is that of an organism you find repeated everywhere the same curve—in eye, in nostril, in spinal and muscular wave—the same reference of every element to the type-cell and its central forces. But now look at the same shapes with other eyes, with those of an imagined realist. Perhaps there are no straight lines in Nature, he might report; but on the other hand there are no circles; and the higher the effort of Nature the less is the circle apparent. Nature progresses out of roundness toward angularity. In elliptical shapes we see signs of rebellion, the two centers are struggling apart. Humps, horns, heads, tails and limbs, are evidences of promising home-rule. And in animals which we regard as highly developed we find actual corners and discontinuities of line:—see the square-blocked blooded bull; compare the man with the

[1] This is what I understand Professor Ewer to contend for in his forcible article "Paradoxes in Natural Realism," in *Journal of Philosophy, Psychology, and Scientific Methods*, October 28, 1909, pp. 589–600.

infant; note the loose play of limb in quadrupeds as compared with the tighter bound organs of bird and fish. So in the works of art that follow nature: contrast the moon-faced people drawn by a school-boy with the cross-hatched sketches of any master-hand. Or observe the line of progress from the round huts of the ancient Saxon, the igloos of the Eskimo, the charcoal-burners' cabins of Scotland, the Indian wigwam and the like, to the square walls of the Romanized English dwelling, and our modern 'house.' Roundness, in fact, is the hopeless thing in nature. So far as the organism is round and continuous within itself, in so far it must live upon its own resources and inertia. But wherever it crosses reality, even the most primitive organism, wherever it touches the sources of its continued life—in eating, in knowing, in giving birth—there it confesses entire discontinuity, and dependence upon the independent.

To my mind the world of knowledge is in analogy with this world of shapes to this extent: Not only that to every sign of dependence which the idealist shows, the realist can demonstrate a sign of independence; but also that the life of knowledge depends upon a complete rupture, at some point, of the ideal tissue of any given subject, and that what he calls 'reality' is to be defined, in part, by this breach in the wall of his selfhood. Figures apart, let us consider whether any such region can be admitted; and how it must affect the idealistic formula.

There are reasons for looking for such a region first within physical experience. Some of these reasons have recently been put forward by M. Bergson. Largely the same reasons were touched upon by Kant whose uneasiness about empirical idealism came from the same quarter. The entire weight of our judgment of Wirklichkeit, Kant asserts, hangs upon Wahrnehmung.[1] We may make to ourselves conceptions as we please of things according to the categories (for instance, of things so related that the condition of one thing carries with it a definite condition of the other things); but from these conceptions we can never know what actual things stand in that relation, nor can we understand how they can be so related, until we refer to

[1] Postulate des empirischen Denkens überhaupt.

physical experience.[1] Of our knowledge of change, a strong point with M. Bergson, Kant says, that in order to represent to ourselves Veränderung, we are obliged to make use of Bewegung, or change in space, for an illustration: without this we cannot make even the general meaning of change clear to ourselves, for it is something whose possibility is quite beyond the grasp of the 'pure understanding.'[2] In sum: however much *a priori* knowledge may be possible, we have actually no working ideas at all without "Wahrnehmung, mithin Empfindung"; and this click of sensation is required to give the note of reality to any part of the system of experience, categories and all.

But as with idealists generally, so with Kant: while we hear him speaking boldly about 'external reality' in quite realistic vein, we have always to expect from him the annulling stroke, "Yes — but what do you mean by external reality?" Kant has not failed to express himself on this point, most radically of course in the "Widerlegung des Idealismus." The reality which we know in physical experience, he says in effect, is outer, not only in the two senses commonly accepted by idealism, namely, (1) that objects in space are outer to each other, and (2) that the system of nature confers upon some objects not now present to my perception the same reality which is attributable to these present: but also in a further sense which not even the personal ich-denke can engulf, namely, (3) that here we find this very personal self, in so far as it is a peculiar individual, in the *process of being made*. As a knower—so we might interpret the argument—I am as a whole a being with numerous peculiarities: I have not only a time-span, and a time-rate, but a very definite and particular

[1] The following sentences from the "Allgemeine Anmerkungen zum System der Grundsätze" are noteworthy, partly because of the use of the expression, 'objective Realität' instead of 'Wirklichkeit,' and partly because Kant is speaking of the reality not simply of individual things but of the categories themselves — that is, of things *as conceived*: "Es ist etwas sehr Bemerkungswürdiges, dass wir die Möglichkeit keines Dinges nach der blossen Categorie einsehen können, sondern immer eine Anschauung bei der Hand haben müssen, um an derselben die objective Realität des reinen Verstandesbegriffs darzulegen. . . . Noch merkwürdiger aber ist, dass wir, um die Möglichkeit der Dinge zu Folge der Categorien zu verstehen, und also die objective Realität der letzteren darzutun, nicht bloss Anschauungen, sondern sogar immer aeussere Anschauungen bedürfen" (2d ed., pp. 288, 291).

[2] Allgemeine Anmerkungen, etc., 2d ed., p. 291.

time-span and time-rate. And so of many another element in my make-up—the special tension of my desires, the numerical coefficient of tenacity in my attention, and the like. Now if these peculiarities require explanation, they cannot be explained by anything within the self, because they affect and define the self as a whole; but the truth is that we know these peculiarities in experience, and we know them only by knowing something else at the same time, namely, an outer reality which is measuring itself against myself, and whose point of contact is found in sensation. I have no peculiarities which are not first peculiarities of something not-myself. Whatever may be the nature of this reality, here, in sensation, I see as it were my own measurements, my own peculiarities being borne in to me. The material of sense is, in its first moment, not-self-stuff; and only in its second moment, as elaborated in my forms of experiencing, does it become part of my own being. The physical judgment, then, juts out into the idealistic night—it works in a realm where selfhood is metabolic, non-monadic.

The essential point in this discussion might be formulated in this way. You, the idealist, may legitimately attribute to, or include within, any self, so much as that self can understand and reproduce, and no more. The self, at your own rating, is to be defined by mastery, by self-consciousness, by self-sufficiency. And since this power of conscious control fades out as it approaches the particular, and never penetrates the particular, you must admit a final limit to the individual self at the point where experience becomes particular, that is, at physical experience. But reality has always, as one of its factors, particularity: whatever we think of as real we endow with the qualities of the reality which plays upon us in sensation, in so far as sensation is one of the maxima of experience, setting the standard of pungency, definiteness, completeness of detail, determinateness to the last point of enquiry, all-there-ness; whatever we believe real we regard as continuous in these respects with the reality thus presently touched, and in such wise continuous that this present moment is regarded as real by infection from or derivation from the rest of reality. Thus the successive points of our contact with reality

arrange themselves in what we call a 'history,' a succession of moments marked at every point by these characters of particularity and surprise. Moreover, whatever reality the self has is measured by the prior and independent reality of the objects with which it deals; nor do we finite selves ever acquire a reality which can subsist apart from our sensible objects. Dreams, imaginations, volitions, may be regarded as our several degrees of experimentation in being thus self-sufficiently real. But with the highest success of these experiments, namely, in successful action known to be such, our reality remains in large part centripetal; we continue to live only by keeping open the avenues through which that independent being is communicated to us. Hence, in sum: the self does not *include* reality. Reality is beyond the self; not a distinction within the self. What we can claim of reality is a point of contact, a surface of osmosis, in sensation: this is the border between the reality original, and the reality derivative of myself; it is 'the immediate' and also 'the ultimate,' the last point within and the first point without. Our experience is metaphysical (or perhaps better, metapsychical), not phenomenalistic; but of the independent reality we possess only the 'that' which we immediately experience as we experience our own limit; we possess no 'what' whatever.[1]

In identifying sensation as a point of vital contact with an independent reality the above argument seems to me final. But it is not clear that this reality is found only in sensation; the agnostic or mystical conclusion is too hasty. It may or may not be true that 'There is nothing in idea which was not previously in sense'; but I propose that 'There is nothing in sense which cannot be taken up into idea.' From which it would follow that we may have not only sensations, but also ideas and feelings of independent reality. Whatever objection there might be to this doctrine (on the part of thinkers such as Bergson, James, Lovejoy, and others) would seem to come from taking the distinction between idea and sensation, or immediate experience,

[1] It may be remarked that Hegel and Royce have a way of recognizing this same limit, in regarding nature as in some sense a realm of chance so far as the purposes of spirit are concerned, in which the particular thing that happens may not be foreseen by God or man.

in too ideal and artificial a manner instead of the intuitive manner which they themselves recommend. The fixed gulf between idea and sensation is perhaps as great as any chasm in nature can be; but still it is a natural chasm, and the functional relation between the two is likewise natural. What this relation is may be illustrated by a political analogy.[1]

The state is an effort of society to become fully self-conscious and self-controlling; its ideal is so far identical with that of the individual mind. The state deals with its natural data—namely, its physical and economic status, its customs and traditions—just as the self does with its natural data, its sensations and instincts:—it turns them into ideas. The state calls its own ideas, however, by the name of 'laws' (or institutions, which are congeries of laws). Now a law is always either an experiment, or a statement of the conditions under which experiments must be carried on. The rigidity and fixity of a law is only such as is necessary for a satisfactory experiment. In order to know how life works we must proceed by assuming that we already know, and holding to the assumption until it is proven wrong. So the ideas which we individuals make are either experiments or conditions of experiment: they are so many ways of assuming that we already know reality. Now there are three points in this analogy which are important for our present enquiry:

I. The law is not something else than the custom which it institutes, and essentially sundered from it; it is the custom itself acquiring the power of speech and so of political entity. When once there exists such a thing as a political world, a world wherein modes of action survive at last only by convincing some established organ that they ought to survive, then every custom is bound in time either to become an institution or to disappear.

[1] It is remarkable that the state furnishes present philosophy with so few analogies. For the state is still, as in the days of Plato, the most perfect visible example of the mind in its dealings with reality; while the things which have happened in politics, and in our understanding of politics, since the time of Plato, ought to render the analogy even more fruitful for us than it was for him. The philosophic value of analogy as a prelude to exact argument, keeping the argument proportionate and mutual, has increased rather than diminished with the multiplication of philosophic differences.

To be translated into law is only the process of entering the new status, of acquiring the new powers of self-defense and self-maintenance. So the idea is not something other than the instinct or the sensation. It is the identical thing, with newly acquired powers of speech and of influence upon action. It is the fate which is imposed alike upon all sensations and all instincts because of the fact that there is such a forum in nature as a 'mind.' Hence, while we may have, for example, ideas of things static, and sensations or intuitions of things changing; we have just as truly sensations of things static and ideas of things changing (it being understood that the sensation knows not what it is sensation of). There is no mentionable element of experience present to sensation which is not also present to idea. The idea is the experience made politically potent with reference to other experiences; it is the experience freed from the barriers of its historical context, able to combine with other experiences as determinants of action, without regard to original position in space or time. The idea endows the experience with a real faculty of transposition, akin to the assumed revolvableness and superposableness of the geometrical magnitudes; and nothing else than this new capacity of relation is meant by the fact that the experience appears to a mind. Hence, if there be any such thing as an immediate experience of time, there will necessarily be such a thing as conceptual time also; and this conceptual time will be not be a different time, but identically the same time, with the new capacity of being regarded in segments, transposable, comparable, measurable.[1]

II. All laws are subject to error except the laws which contain the conditions of experiment. For a law contains besides the representation of a custom also a judgment, or enactment, which sets that custom in a positive position in the public life. The implied judgment may be thus interpreted: "In this enactment the custom, or impulse, or interest, in question is given its right-

[1] It seems a wholly deplorable misuse of language to say that because conceptual time or metrical time is artificial, it is therefore not the 'real' time. As well say, because the family as now instituted is an artificial family, it is not the real family. It may not be the ideal family, nor the original family; but I know not where to look for the 'real' family except in families — as they are.

ful meaning, force, and bearing in the public life in general." This judgment, which is the experimental side of the law, may be in error; and its error can be corrected only by the same reality which the law undertakes to entertain, namely, by economic fact, and human nature as found in the tendencies, customs, and feelings of the populace. The constant flux and revision of positive law is (supposably) the attempt to determine the true account of this same reality in its political bearing. Whatever scope there is for originality in public life, it cannot lie in the invention of new material for that life, but only in the mode of voicing this permanent material. Hence while the power of originality lies with the successful utterer, the source of originality itself is in the people, in their dumb feeling of wrong, and in their dumb anticipation of the direction of right. They are the social sensation and primitive fact. Correspondingly, in the individual mind, sensations and feelings are the Demos apart from which as Bergson rightly says there can be no personal originality. The best originality of the mind is but the truth of nature; it is the master stroke of release, the release of nature into the condition of idea. But what is thus released is still the same reality which was present to sensation; were it any other the intention of the idea itself would be defeated.

III. Laws which contain the general conditions of experiment, that is, the laws regarding laws, law-making, and law-enforcing, which together are the constitution of a state, are not subject to error in the same sense in which the positive law is thus subject, and so not subject to correction in the same sense. This part of the law differs also in this further respect from the positive law: That it does not seem to appear as part of the reality met with in external sensation, in the original facts of society: it is in a peculiar way the state itself, it is the new thing which has happened to make all the work of social self-thinking in law necessary. We might say, after the old epistemological formula, The customs and predicaments of natural society contain all the subject-matter of law — except the political constitution itself. Nevertheless, constitutions also are subject to secular evolution. There are such things as unnatural constitutions; hence there is

such a thing as a natural constitution. Is it possible that in the datum of state life there is anything which might serve as an original and slow corrective to the constitution? May it be that the principles of administration that become customary in the family, and in the collective meeting of economic emergencies, constitute the reality, as it were in the form of sensation, which the state announces as idea? It cannot have been otherwise[1] and it is not otherwise: the sense for authority and the logic of authority in elemental human nature is authority for the state in its interpretation of authority. The constitution of the state is the state itself, and yet it conforms to an external reality which is part of the datum of its existence. The customs to which it gives political birth are already in their crude form, *administered* customs. So also with the mind. It has its principles of experiment which are not subject to correction and error as are its common predicates. These principles of experiment, the ideas of cause, substance, and the like, are the mind itself in its dealings with its sensations. Nevertheless, these also are not wholly nor primarily internal. They are first part of the reality of direct experience. For this experience is never experience of physical nature alone: it is experience of *administered nature.* The mind has mind as part of its real object; and its ideas of ideas are not originally got from views of *itself*, but from views of its very external reality. This is a hard saying; but it is the truth. The reality which we touch in sensation is nature known; and hence nature already endowed with the characters of the idea. The objectivity of the world extends to its space, its causality, its matter, its energy; and we have no other system of nature than that which we find already established in experience. This reality which we experience and which we know to be independent, is not an unknown being, giving rise to sensation, and so to physical experience, and so to reflexive experience; but it is a full-fledged world of nature and thought. Our original experience is just as truly an experience of other-mind as it is of other-things; and the independence of the other-mind, and of the other-things, are one independence.

[1] See especially on this point, G. Tarde, *Les transformations du pouvoir.*

So far, I have tried to state and illustrate a doctrine, not to prove it. But it is capable of proof; and the proof takes the form of the historic ontological argument. The ontological argument is a way of inferring from an idea to a reality. "Because I have a certain idea," so it runs, "there must be a reality which corresponds to it." As it stands it certainly cannot apply to all ideas. To apply it, it is necessary to distinguish first between the ideas which are hypothetical in character and expect correction, and those which are not thus tentative; this distinction we have already sketched. But to put it strictly: For every idea which expects correction there is another idea determining how that correction must come, and hence not subject to correction at the same time and in the same sense. And since there are some ideas subject to correction, there must also be some ideas not subject to correction at all. In the rough, these are the ideas which guide my constant experimenting. I do not try here to deduce them, but only to point them out. They include some constant elements in the spatial, substantial, causal, and social aspects of my world. But the point which I wish to make, and which constitutes the necessary amendment of the historic ontological argument is this: These ideas guide me only by being themselves *experienced*, the idea in question being no other than the experience recognized. For whatever may be the variable and whatever may be the constant elements in my present idea, say of causation, that portion of it which is still subject to error, and so subject to correction, is experienced in no wise differently from that portion of it which is not subject to correction; in so far as I experience cause at all, I experience it all as one real fact, and *there is no type of error to which this idea is subject which can refer me outside the precinct of this same objective reality for its truth.* Hence we may say: Whatever idea I have of causality, in that sense there is a real causal relation between things. Or, because I have an idea of space, space is real. Or, again, in whatever sense I can think, or imagine, or deny the existence of a fellow-mind, in that sense the fellow-mind is real, and an object of my experience. If this thesis seems incredible, let one imagine what it would be to experience, in the most satis-

factory manner conceivable, another mind—let us say 'to be within another mind'; let him then compare the imagined experience with his present experience—and let him state, if he can, in what essential respect these two experiences differ. Until such statement can be made, I need not hesitate to assert as I have done, that our original experience of independent reality is an experience of nature, known by an independent knower. And now let me summarize what this independence amounts to, and in what way idealism is modified by admitting it.

The most general statement that can be made is this: That real objects are independent in whatever sense we can imagine, or think, or enquire about, or deny, their independence. The existence of 'the independent object' is in fact the most general subject-matter capable of ontological proof. The independence of any object is the independence which I do in truth experience in it; and if I wish to know more nearly what that experience amounts to, I can look nowhere but to those ideas which refer to that experience. Let me return for a moment to our illustration.

The independence of the real object, in the case of the state, means in part this: That nature pursues her way in spite of the laws if the laws are wrong; but that if the laws are right, she pursues her way more easily. If this be true her independence is limited. The laws, in fact, are organs of nature at the same time that they are organs of the state. And because this is so, they learn to express the very independence which their object maintains. Nothing is more conspicuous in the history of law than its progress in the definition of the status and technique of an independent citizenry; it comes to confer upon them a kind of individual separateness of being which they originally neither had nor desired. In the ideas of property, in the specialization of labor, and especially in the use of money (by which we are given a kind of solitude in the use of goods inconceivable to early man), the state seems to be introducing human nature to its own independent character, and so giving rise to more of that independent ferment to which it must submit its own demands. And now, in the case of the idea, we have to say likewise, that

the idea is at the same time an instrument of the self and an instrument of that very reality which it is regarding as its object; and that the idea has its own way of presenting to the self the independence of that object. How boldly language has come to attribute independence to the various objects of experience; how thoroughly 'substantive' our nouns have become in their grammatical relations; how unhesitatingly we confer a kind of absoluteness upon each thing named, as if it might exist in its own right. And this assumption, as it is meant, receives the pragmatic sanction: it works, it continues to work better as the world grows old, and it alone works. It is the truth of reality; and in this sense, rather than in the reflective sense, the truth of nature, even in her independence, is to be found in the idea, and in the idea alone. The real independence of the object is the independence which I learn to attribute to it; it being well understood that it is not a matter of my choice whether or not I do thus attribute independence to my objects. The independence is a matter of experience first, and of idea afterward. But now, more specifically, what does this independence mean?

It means, in the first place, *priority of being*. Not necessarily temporal priority (though this is part of it), but originality; the kind of priority which I instantly experience as I find myself being made. The real is the source of myself, both as particular being through my historical context, and as a being with ideas not subject to correction. There is no literal isolation of minds, on this showing. Both the historical and the constitutional aspects of reality are identical objects of all finite minds at once, so that in whatever sense the mind may be said to include its object, there is a region of actual and permanent coalescence, a core of community which may be increased by the active process of intercourse. But ontologically this identical object is not a part of the being of the minds that know it, if we accept the idealistic definition of the being of a self above adopted: the self *is* as much as it commands. The epistemology and the metaphysics of the situation fall asunder; and it is at this point that idealism, if we have been right in this argument, will have to suffer restatement. *We cannot identify I-am with I-think.* It is

possible to experience and to think being which is prior to me, which is in reality not-me. The I-think has a scope which exceeds the I-am by one remove. True, there is nothing in what I-think which can be excluded from me; what I know is in the process of becoming me, in so far as I am able to appropriate it. The I-think represents the explorative, reaching-over function of my being; it is my spiritual metabolism—it, and not the subconscious except in so far as the subconscious is a precursory form of experiencing. The finite knower knows realistically; though all reality be in truth spiritual.

In the second place, independence means *necessity and authority*. The reality is that which, in knowing, I cannot change, that which corrects my errors, and that which determines how error shall be corrected. Our quest for reality is indeed, as we said at first, a quest for power. But power is itself subject to the distinction between real and unreal; and only that power is real which is power over independent reality. The Hindu heaven of controlled dreams has every aspect of reality except the independent power of the objects; it has every element of happiness except that it is not real. Hence while reality may be defined as the region wherein my action is successful, it must be with this proviso: that success is to be at the expense of first knowing and persuading to my ends the independent Being. Reality is not a region where my tyranny is possible: it is a region where my prophetic power is possible. My objects as they come to me in history are my fate. My general 'will to be rational' or to 'accept the will of the world' has no force to determine what they shall be. My attitude to reality as it particularly is (except for my will that there be a particular reality) is not one of constructive willing, but one of refusing to reject; and I continue to refuse to reject, that is, to 'hope' or to 'believe,' in part because the universal negative of discord between my will and the will of the whole, if there be such a will, can never be proved.

To sum up: The independence of the object is such as is correlative to my various types of dependence, and to my peculiar type of independence. The idealist is always right in turning upon the realist with the demand: 'But what do you mean by indepen-

dence.' The realist is right in insisting that this allegation of meaning does not swallow the object up into the subject, the distinction between what I am and what I think being a persistent one for finite subjects. The force of the idealistic criticism of realistic epistemology is confined, so far, to showing up inconsistency or impossibility of thought. And we return thus to Spinoza's definition of substance as 'That which is by itself and is conceived by itself'; not because logic controls Nature, but because logic *is* Nature, in the only form in which Nature can now be approached by human consciousness.

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REVIEWS OF BOOKS.

A Text-book of Psychology. By EDWARD BRADFORD TITCHENER. Part I. New York, The Macmillan Company, 1909. — pp. xvi, 311.

It is a somewhat ungracious task to review one half of a scientific work before the whole has been examined, and the process necessitates suspension of judgment upon many matters which essentially affect a final estimate of the achievement. Recognizing these limitations, however, we may comment upon certain obvious features of the volume now before us.

The author informs us that the present work is written to take the place of his well-known *Outline of Psychology*, which is to be retired from circulation upon the completion of the second volume. So far as concerns the desire of the public for an authoritative expression of the author's psychological views, no doubt this intention will be fully realized and the new work will displace the old. But that it will in all other regards fill the place of the older book may well be doubted. In leaping to approximately twice the size of the earlier volume, it reflects, no doubt, the rapidly widening horizon of experimental psychology; but at the same time it quite as certainly changes its field of usefulness. The older book enjoyed a well-deserved popularity as a beginner's text. It may be questioned whether many institutions will feel that a two-volume work of upwards of six hundred pages, many of them preëmpted by small compact type, is suitable for this purpose. Moreover, not a little of it is written in a way which young students will surely find difficulty in following. In this respect it seems to the reviewer distinctly less successful than the *Outline*. It is less incisive in style and is rather less stimulating to read, albeit perhaps sounder and more reliable because of its conservatism. As it stands it appeals in part to beginning students and in part to those more advanced; but the latter are likely to find it more useful than the former. Meantime, as a reference book and as a text for instructors who have at their disposal time for an extended course, especially for those who lean toward a heavy emphasis on experimental methods, it will have few rivals.

Part I, which is now under consideration, opens with an extended chapter on the subject matter, method and problems of psychology, after which follow ten chapters on sensations and a chapter each on affection and attention. Nearly two thirds of the entire space of the volume goes to sensation which is nowhere else in English so fully treated on the purely psychological side. Each chapter has at its close an excellent selected

bibliography. Many of the references are in German and (confirming what was said a few lines above) are consequently likely to be of little use to the ordinary beginner.

There appear to be no important alterations of view as to the fundamental conception of sensation and its method of treatment since the last printing of the *Outline*, unless we may so regard the addition of "clearness" as one of the essential attributes of sensation coördinate with quality, intensity and duration. On the other hand, there are necessarily many additions and modifications of detail in the treatment of the several senses. Taken as a whole these chapters are most admirable, a real contribution to our resources for training students. The reviewer is only disposed to cavil at one or two minor points.

For example, the author in his preface avows his continued allegiance to his former policy of turning over to the teachers of nervous physiology practically all instruction concerning the facts of the nervous system. The result is that these otherwise splendid chapters are going to require a large amount of elucidation by the instructor in psychology. However much we might like to have this work done for us and however much better it might be done by proper specialists, the actual fact (which is not likely soon to be changed) is that 90 per cent. of all our elementary students of psychology come to us utterly innocent of any information on these topics. If their texts give them no help, they must look to lectures from their instructors. In point of fact this is what happens, and the teacher is obliged to spend time in lecturing on topics which experience has abundantly shown can be at least helpfully started in a text.

Mr. Titchener himself yields a somewhat grudging acknowledgment of the practical force of this view of the matter when in his chapter on vision he so far deserts his principles as to give a very brief and popular account of the eye. He abstains, however, from using any diagrams, elsewhere so plentifully supplied, so that the student is not likely to realize that he has been offered any physiology.

Economy of space is sometimes urged as a reason for omitting physiological matters in our psychological texts. But this is not the reason advanced by our author. However, in this whole issue the reviewer is frankly biased. He quite as frankly acknowledges a mild unholy joy at Mr. Titchener's inconsistency.

The chapter on hearing contains two omissions which deserve notice. There is no sufficient indication of the precarious position of the theory that the basilar membrane is the resonating mechanism by which tone analysis and many other phenomena of auditory consciousness are to be explained. Even though the author's own opinion be quite fixed, the

state of the question warrants a much more adequate mention of conflicting views, such as elsewhere he has generally given. Similarly he does not mention the fact that difference tones have been distinctly heard by persons destitute of the tympanic membrane and the bones of the middle ear, under conditions which presumably precluded the extra-organic production of the tones. In a treatise of this kind students are entitled to find such matters mentioned.

One of the most interesting features of the volume is the fact that the author enunciates a doctrine of affection, its relation to sensation and its physiological basis, which marks a distinct departure from his earlier views. The present writer is not wholly clear as to its exact implication and thorough criticism must be postponed. The following quotations will serve to convey an impression of the general position adopted.

"The writer holds that there is an elementary affective process, a feeling-element, which in our own minds is coördinate with sensation and distinguishable from it, but which is nevertheless akin to sensation and is derived from the same sources, made (so to speak) out of the same kind of primitive material: this elementary process is termed affection. He holds, further, that there are only two kinds or qualities of affection, pleasantness and unpleasantness" (p. 226).

"The lack of the attribute of clearness is sufficient, in itself, to differentiate affection from sensation; a process that cannot be made the object of attention is radically different, and must play a radically different part in consciousness, from a process which is held and enhanced by attention. And it should be noted that lack of clearness distinguishes affection from organic sensation as definitely as from sensations of sight or hearing" (p. 232).

"Affection, as we have described it, is an elementary mental process that is both like and unlike sensation. The resemblance is so great that the two processes are evidently derived from a common mental ancestor; the difference is so great that we have no choice but to rank affection, in human psychology, as a second type of mental element, distinct from sensation" (pp. 236–237).

"If, then, we adopt it as a working hypothesis, the affections appear — not exactly as undeveloped sensations, for an undeveloped sensation is still a sensation — but at any rate as mental processes of the same general kind as sensations, and as mental processes that might, in more favorable circumstances, have developed into sensations. The writer hazards the guess that the peripheral organs of affection are the free afferent nerve-endings — what are ordinarily called the free sensory nerve-endings — distributed through the various tissues of the body" (pp. 260–261).

One does not customarily connect Mr. Titchener with the thought of compromise. Yet this view which has just been presented is in effect undoubtedly a middle position between the advocates of the theory that all so-called feeling is organic sensation and those who maintain that feeling is altogether non-sensory, both in conscious quality and in physiological basis.

As a merely logical proposition there is no difficulty in thinking of sensation and affection as species of some primitive conscious genus. Indeed, this is almost inevitable if we pursue ordinary genetic analogies. But the procedure is by no means free of pit-falls, and if we go on to Mr. Titchener's physiological speculations, our perplexities promise to become very grave. It is surely very strange that 'clearness' should be lacking to one form of sensory process when all other known forms possess it, and this is doubly strange in view of the wide distribution of this sensory apparatus throughout the body. It gains an additional peculiarity from the fact that the sensation of pain, hitherto commonly associated with the nervous organs and appropriated for affection, possesses 'clearness' and localizability and the various other characteristics commonly assigned to sense experiences. Nor is it quite obvious how a single nervous apparatus of the afferent sensory character is to mediate two sorts of conscious qualities often described as 'opposites,' and alleged to have no true analogies among the genuine sense processes.

On the anatomical side at least, if we are going in for this kind of hypothesis, it is possible that such a theory as was propounded nearly a score of years ago in this REVIEW by Dr. Herbert Nichols,[1] may be found more acceptable with its assumption of two primitive forms of affective apparatus which by hypothesis had developed from an earlier single form. To be sure this view has attracted but few advocates, but in its fundamental conceptions it is of much the same type as Mr. Titchener's, and it seems to the reviewer to avoid some serious difficulties of the kind just intimated, although as a whole it seems untenable.

The new doctrine is in some respects quite akin to one recently developed by Mr. H. R. Marshall[2] (whom the author does not mention in his bibliography) who identifies feeling with the vague back-ground consciousness of the "empirical ego." This view tends, like Mr. Titchener's, to identify feeling as regards its constitutive material with sensation and idea, but it distinguishes feeling, as does the latter, by its lack of clarification and explicitness.

[1] PHILOS. REVIEW, Vol. I, 1892, p. 403.

[2] "The Nature of Feeling," *Jour. of Phil., Psy., and Sci. Methods*, Vol. III, 1906, p. 29.

Meantime the advocates of the 'organic sensation' theory of feeling will certainly hold that another important adversary has been captured.

The publishers have done their part of the work excellently, although to the reviewer the constant alternation of small and larger type is a serious irritation for which the justification seems hardly adequate. If economy of space be the motive, it may be said that a work which runs to two volumes could well use a larger page and a few more of them. If the procedure is based on a supposed distinction of more important from less important, or of detail from basic material, the division must be held to be repeatedly arbitrary.

We must not close in a querulous tone, however, for the author has given us another capital book which in its own field will have no rival in English until he completes his translation of Wundt's *Principles of Psychology*.

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Philosophische Studien. Beiträge zur Kritik des modernen Psychologismus. Von DMITRI MICHALTSCHEW. Mit einem Vorwort von JOHANNES REHMKE. Leipzig, Wilhelm Engelmann, 1909. — pp. xv, 575.

The writer of this book, a Bulgarian, is a pupil of Professor Rehmke of Greifswald, who contributes a preface. The expression "*filius ante patrem*" suggests that the pupil has, by consent, more or less anticipated the master, whose promised *Logik* and *Philosophie als Grundwissenschaft* are to present his 'immanental' theory of knowledge in systematic form. In the meantime the present author has a reason of his own for putting out this work, namely, to clear the epistemological ground for his forthcoming *Grundlegung der Ethik*. This he sets out to accomplish by a fierce attack upon all transcendental theories of knowledge (*i. e.*, those for which knowledge transcends experience), directed in general against the modern 'Psychologismus,' or psychological empiricism, more particularly against Husserl and Rickert as representatives of the post-Kantian teleological criticism, and most of all against Rickert. Yet his polemic, if severe, is mostly good-humored, and though interminable, it is made good reading by the liveliness and vigor of his style. His German is marvellously fluent and direct — one wonders if it be real German. But he is very successful in making his ideas clear, and his constructive results are interesting, if slow in coming to the surface. For his leading ideas he is clearly indebted to Rehmke; yet he has also made them his own; and for me at least, he has rendered Rehmke's doctrine clearer and

more appreciable. This will be my excuse for giving his ideas somewhat in detail.[1]

In his *Ethik* he is to show that there are no strictly universal, or objective, moral judgments, *i. e.*, none that are valid beyond the particular set of relations for which they are formulated. Every moral judgment is a *Gemeinschaftswesen;* that is, it expresses a relation of mutuality; and it is therefore meaningless beyond the point where the relationship is mutual. But if the teleological criticism can show that there are strictly universal judgments in epistemology, this ethical position will be untenable. The object of the present work is therefore to show that there are no such judgments.

For the teleological criticism truth is validity, something to be proved or realized; it is not the representative of any transcendental reality, yet its reference is always beyond the given. It is not *gegeben*, but *aufgegeben*. The teleological criticism is Kantian, yet only another aspect of the psychological empiricism represented by Locke, Berkeley, and Hume. This empirical doctrine rested upon the antithesis of idea and object; the idea alone was given, yet the object to be known had to be independent of the idea. Of course its problem was insoluble. The teleological criticism claims to be free from such assumptions, yet its contrast of the valid and the given expresses an antithesis of the same sort — in fact the same antithesis. The fact is that neither is free from presuppositions. Neither, therefore, has found the proper starting point for a theory of knowledge.

We must start from the *really* given (*das schlechthin Gegebene*). All historical assertions about the world as a whole, to the effect (*e. g.*) that all is water, all is spirit, all is idea, all is phenomenon, etc., imply a contrast between the all and something beyond. The really given implies no contrasts. It includes everything — the non-spatial as well as the spatial, ideas as well as things, the unreal as well as the real, ourselves as well as the world — just anything that happens to be given. Hence, the given is no 'series of phenomena,' or mental states. As the given it has really no determination whatever. It is not even 'the world as a whole.'

Yet it is a consciously given. Not that the given *is* consciousness. Far from that. To say this would be to repeat the mortal error of the psychologistical and critical philosophers. The given is not *Bewusstsein*, but *Bewusstseiendes* — not consciousness, but (1) a being conscious of (2) something. To say that something is given means that it is the object

[1] Rehmke's *Lehrbuch der allgemeinen Psychologie* was reviewed by me in THE PHILOSOPHICAL REVIEW, Vol. V, No. 4; it was followed by a reply from Rehmke (Vol. VI, No. 2), and later by two interesting articles explaining his position, in Vol. VI, Nos. 5 and 6.

of my regard (*Betrachtung*) (p. 297). Here the author follows Rehmke in the view that the very meaning of being conscious is to be in possession of an object which is distinct from the fact of consciousness itself. Knowing involves an interaction between two concrete things, a knower and a known. And when a knower is given as knowing, there is also given, not merely an idea of the object, but the object itself, as independently of the knower as any other concrete things are independent which act upon each other. Forgetfulness of this is the cause of all the errors of modern epistemology. As Michaltschew puts it, An idea has an object. The ' has ' expresses the same relation here as when we say that John has a horse, or a brother. But we say also that the wine has a pleasant taste — meaning that the taste is a quality of the wine itself. The epistemologists, confusing these two relations, have made the object a quality of the knowing consciousness, and thus they have reached the false conclusion that only consciousness is given.

Such being the given, what is knowledge? Simply, of course, an analysis, clarification, determination, of the given. Here, however, we must introduce his theory of the general idea. He holds that the general idea itself is given — not merely particular things. And things themselves are given — not merely temporally seriated aspects of things (*Dingaugenblicke*). The nomenalism of modern epistemology turns this fact upside down and makes the data consist of what are really abstractions. Berkeley, indeed, was right in holding that any triangle thought by him must be equilateral, isosceles, or scalenon, but wrong in holding that we have no general ideas. Whenever we distinguish any aspect of a thing and recognize it as a mark or common feature of a class of things, we have the general idea *in the datum*. The idea of the dog is not " in me " or " in my consciousness " (the 'in' he holds to be meaningless); it is part and parcel of the dogs themselves (an den Hunden) (p. 289). Hence, while there is such a thing as the general idea, or universal, it is a strictly immanental universal, embraced wholly within the given and meaningless for anything beyond.

If, however, the general idea is given in the thing there can be no question of bringing together, in the judgment, an originally separated idea and thing, or general and particular. All synthetic theories of the judgment are misled by the grammatical form of the sentence. Words are combined to form sentences, but there is no combination of ideas in the judgment. To know is simply to *re*cognize — to find again — the general in the particular. In the judgment the universal is the predicate, the subject is the given. To say, then, that this flower is beautiful is to have the same beauty that I had before, only now more explicitly defined. The

only cases of genuine synthesis, as he significantly remarks, are the so-called associations of ideas.

But now, what is truth? Truth is indeed a relation of correspondence, not, however, between idea and object, but between sentence and thing. Here again he points to the confusion between logic and grammar, his analysis of which is very suggestive. There are no true or false judgments, only true and false sentences; likewise no positive or negative judgments. The so-called negative judgment does not deny, it only separates. In fact logic has nothing to do with either denial or affirmation. It analyzes, not the truth of judgments, but the judgments themselves. The very law of contradiction is only a law of diction. *Wiederspruch ist Spruch gegen Spruch.* For truth we must turn always to the given, the determination of which belongs not to logic but to the special sciences. They alone can tell us what is true, or what, in last analysis, can be, or can be conceived to be, the nature of the real. The task of philosophy is merely to analyze its most general characteristics as they are found in the given.

Such analysis shows that the real (which, of course is only one feature of the given) is constituted by a relation of interactive unity (*Wirkenseinheit*) between concrete things and concrete conscious subjects. This interchange of influence is the very essence of the real. *Wirklichkeit*, in other words, is *Wirken*. Neither minds nor things can change of themselves, but only when in contact with some 'other.' But from the very nature of this relation it follows that the real, while never more than a *datum* for consciousness, is yet independent of the consciousness that knows it. Does this mean, one might naturally ask, that the chair, though given as something independent of the perception of the chair, is real only *when* it is being perceived — *i. e.*, is only intermittently real? By no means, the author replies. Such a question implies that the chair is given only in temporally discrete moments (*Dingaugenblicke*), which, he acutely remarks, is to forget that the characteristic function of consciousness is to embrace a present, past and future *all at once*. Hence, just as given to consciousness, the real is a continuously existing — a thoroughly realistic, real. Yet its nature is such that it cannot be given in its entirety to our human consciousness. From this characteristic of the given he derives a divine consciousness, to serve as the final 'ground' of the world, the inclusive conception, or *Inbegriff*, of all the interactive unities. Yet in this derivation he claims still to stand upon the ground of the given.

In the hope that any injustice done to the master might be made good to the pupil I have re-read Rehmke's papers and taken another look over his *Lehrbuch;*[1] and I am free to confess that, on a revision of judgment,

[1] See note on p. 324.

I find the doctrines of Rehmke and Michaltschew concerning the nature of consciousness, and the relation of consciousness and object, to be highly significant and important. Yet I am unable to see that these doctrines have any necessary relation to their ' immanental ' point of view. Against this feature of Michaltschew's doctrine I can only repeat, in substance, the criticism urged against Rehmke. His aim is to start from a point of view which is free from presuppositions. But there is, and can be, no such point of view, at least for our human thinking. A presuppositionless point of view would imply a finally perfect and complete knowledge of self and the world. He finds such a starting-point, however, in the given. But what is the given? He himself can give no answer to this question without contradicting his own definition. For any given to which he may point is by his pointing made determinate. And no not-given can be even conceived. Either, then, his immanentalism is so broad as to mark no distinction whatever, or it contains, after all, an obscure implication of that subjectivism which he so heartily detests. That is to say, he cannot say what is given or not given except by setting up a world of ideas over against a world of things and then deciding, by contrast and cross-reference, what is included in the world of ideas alone — a world of ideas which is now separated from the world of things. His account of the given suggests, at different points of his argument, both of these criticisms. And in my opinion he is misled from the beginning by a false logic. Otherwise independent in his thinking, he has blindly accepted the traditional conception that the structure of knowledge must be built upon an independently solid ground. His conception of the given is then simply a fruitless attempt to satisfy this hypothetical demand.

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Le rationalisme comme hypothèse méthodologique. Par FRANCIS MAUGÉ. Paris, Félix Alcan, 1909. — pp. xii, 611.

A widely current view today is that science is a well-knit body of definitions; that proof, deduction, is a conceptual matter only; that intuition gives not universals but particulars; and that an *a priori* demonstration of objective scientific principles is at best doubtful. In sharp contrast to this seems the view of M. Maugé. His purpose is " determiner les conditions de l'expérimentation et de la systématisation dans les sciences " in a quite *a priori* way: " nous nous efforçons de déduire des idées d'expérience et de système les conditions de leur realisation " (p. i). Yet it is not limited to the conceptual realm, for we are enabled to derive " une logique de l'intuition que nous appliquons ensuite . . . tant à la découverte des lois naturelles qu'à celle des principes et d'un plan général

de systématisation" (p. i). This, he admits, is only a demand, for there is no way of getting from the purely subjective to the objective; but it is a demand which enables us to choose properly from the mass of data those which suit the needs of science. Here he is able, at least in a negative fashion, to obtain an objectively valid clue which, as he believes, (pp. iii, iv) Kant's deduction was really unable to furnish. Without in the least claiming that we constitute and determine the objective world, or denying that all necessity is but a feeling, " un besoin affectif " (p. vi), he is yet able thus to get a criterion of external truth. As a defender of objectivity, he is also a partisan of intuition. Experiment is defined thus: " la méthode expérimentale consistera donc à isoler autant que possible les termes dont on étudie la relation: c'est en un mot une méthode intuitive *abstraite* . . . " (pp. vi–vii). The elements about which science is concerned are thus *not* concepts, but presentations; though abstract, yet really so and not ideal limits. Here is a revolutionary position; yet before judging it let us see how it is worked out in the book as a whole.

The system of M. Maugé is, we shall see, a most remarkable combination of apriorism with nominalism. But through it all the subjective character of the demand which created science is never lost sight of: though we can deduce *a priori* the form which science *ought* to assume, if there *is* any science, there might conceivably be no science. Things might be utterly irregular and confused. Thus M. Maugé's *a priori* rationalism loses none of its hypothetical character; it remains a " hypothèse méthodologique." Our problem now divides into two: analysis of the essence of systematic science, and the application of our result to the various sciences, to see that they do and can fulfil the *a priori* conditions which our analysis has discovered. These two problems occupy the first and second books respectively.

What then is the criterion by which we choose some sense-presentations as fit for the body of science and reject others as unfit? The first part of the deduction here is, we must confess, not what the plan and method of the book lead us to expect. Science is " un système de corrélations entre des modes de conscience exprimés par le langage " (pp. 32–33). Now language, words, form a discrete series; so do our ideas, being the inner correspondents of our words. This discontinuity in succession is just nothing but the form of time. Hence, time is a condition of the possibility of science (p. 35). It by no means follows that, as Kant thought, it is a condition of all experience. The author certainly regards this as a serious deduction: " la forme du temps se trouve ainsi déduite, comme imposée par les conditions de la possibilité de la science " (p. 35). Yet who can follow him here? Language is certainly a poor basis, with its

irregular caprices of form and structure, whence to deduce the basis of the exact systems of mechanics and physics. It would surely be better to assume time at the outset. More logical is his second point, the deduction of the *constancy of law*. All statements, all reasoning, presuppose that what was said is true *after* its utterance, as it was *during* its utterance. This of course is only the old "A is A" in its modern form; the author seems not to be aware that the point is familiar. From this he leaps to the principle that *things* must retain their characteristics, display regular behavior under similar conditions. This principle, as Kant showed in his remarks about cinnabar being always red, is indeed a necessary one for science, but it is another principle than the above one, and needs either a reduction to the above one or a separate proof. It is, clearly, time that every bit of logical analysis like this should be done by exact and symbolic methods. There is however a further statement of this principle, sufficiently deduced by the author: namely, that the same causes must produce the same effects, if there is to be science (p. 39). The subjective correlate of this is, that one must be always able to recognize identity in objects. The reader will here note that the author's view of identity is only that of common sense. Any two objects may be identical, notwithstanding their individual distinctness.[1] From what we have deduced it follows that those elements, given in experience, which are recognizable as the same, which display unchanged characters in all their permutations and combinations are the only ones fit to be incorporated into science (p. 47). Now this is just what experimental science and inductive methods bear out. Mill's five methods attempt to discover permanent constant elements. Incidentally it follows that *causality* is not a universally necessary principle: every change must when repeated be accompanied by the same antecedents and consequents, but this is only on condition that there be science, and even then applies only to changes. This is of course a thought not unfamiliar to idealistic philosophers, who regard causality as valid only from a certain point of view. But the main interest of this analysis of the experimental method (Chapter II of Book I) lies in its criticism of the current induction. This method is one of elimination: "elle élimine *idéalement* les coïncidences fortuites, et elle declare que les causes cherchées sont constituées par les résidus" (p. 70). That is good for discovery, not for knowledge. Experimental proof of a cause is found only in isolation. This is one of the novelties of the book; and in the reviewer's opinion perhaps its greatest merit. There should be direct observation of the cause, acting alone, followed by its effect.

[1] Cf. p. 146 "Deux choses qui ne diffèrent que par de rapport extérieur de position sont, prises en elles mêmes, une seule et même chose et leurs propriétés sont indiscernables."

This " isolation," or " material abstraction " is the nerve of all real science. It is done (p. 71) by preventing other agents from coming into the experiment — as in making a body fall in a vacuum, " suppressing " the disturbing agent of atmospheric resistance in order to see gravitation acting in isolation; by " segregation " or isolating a chemical substance in a glass; " neutralization " where the two above are materially impossible and we estimate a cause by seeing how much it takes to neutralize its effect; and finally " differentiation " where the disturbing agents are reduced to a negligible amount — as in the pull of remote stars upon the earth (pp. 72–73). " Ainsi la méthode expérimentale est une méthode d'abstraction matérielle." And what terms can be represented most usefully and clearly in abstraction? Color without form not at all; form without color easily.

One more point and the first book is in essence finished. Since a cause is intuitable, it cannot be a universal. Whence then the generality of scientific laws? Simply from the fact that the *utterly* isolated cause — the mere falling body without further determinations — is so indeterminate as to permit indefinite range of application — in short is practically itself a universal. Of course this is bad logic; the vague is not essentially any more universal than the well-defined. Here as in several other places the author ignores many of the results of the history of philosophy. His system is undoubtedly a mechanical mixture, not a chemical combination, of apriorism and nominalism. And yet we cannot but admire the convincing account of isolation as the core of experiment. It certainly seems to the reviewer a sound point. And there is too, we think, an individuality about causes which present theories of science tend to overlook. How to harmonize these nominalistic motives with a healthy apriorism will doubtless long be the great problem here. We do not believe M. Maugé has quite succeeded; but he has brought out the issue clearly, and has strengthened the nominalistic side.

The aim of the Second Book is to show that while the theory of scientific method just given is in some of the less exact sciences inadequate, the gaps may be filled in. To do this it gives in Part I a careful account of the proposed method: the first chapter explaining in detail 'synthetic deduction,' and the second showing how it is made possible by the very structure of experience and of science. In Ch. I we learn that the old syllogistic logic is of no use, as it does not enlarge our knowledge; so a new kind is needed. This is " synthetic deduction," which reduces to " une equation entre un fait isolé et ce même fait, compris dans un groupe d'où la pensée l'extrait par l'analyse " (p. 168). This " fait isolé " is some one privileged case, not itself materially abstracted as yet — that

is why this is deduction and not induction. Such a case is the straight line in geometry, the atom in chemistry, the electron in physics. This kind of deduction is quite hypothetical, telling us only what would happen in case such and such a complex of these atomic elements did occur. But with the progress of science these elements ought to be verified, — they are not mere " convenient fictions " (p. 180). Now the sciences as actually existing are built up largely out of these synthetic deductions: many of the deductions start from real materially abstracted elements, and many from elements which have not yet been isolated. Besides the above there are a few local excursions in this chapter, which as a whole seems to the reviewer rather unsystematic and confused: *e. g.*, on causation, (pp. 176–177), definition of the notion (pp. 184–185), and the principles of composition, importation, etc. (p. 195). Ch. II shows how experience furnishes us one very convenient element, in terms of which we can express all or an increasing number of the external facts, namely, kinesthetic sensations (p. 205). Hence science would reduce all to motion: *that* is " le langage le plus propre à traduire les relations objectives résultant de la nature des choses " (p. 208). In general, the scientific element must be simple and definite and such that its properties are independent of the size or complexity of the object wherein it exists. Cases of these, reducible of course at bottom to motions, are material points (p. 235) as " éléments gravifiques," electrons (p. 238), and ether particles (p. 242).

Part II of Book II carries out the program in the specially difficult and complicated fields of biology and psychology. The discussion is certainly careful and sustained, occupying a little over 300 pages. Of the merits of his program for a complete synthetically deduced science of biology we are unable to judge; it seems a question not for the philosopher but for the biologist. M. Maugé is an extreme mechanist, taking as physiological unit assimilation, with its complementary process of cell-division (p. 273), reducible theoretically at least to a more elementary unit, the plastid (p. 318). He admits however at the end of Ch. I that deduction cannot at present carry its designs very far (p. 371). The discussion of psychology does not, we must admit, seem very convincing. He distinguishes the psychical from the physical thus : " les mêmes représentations apparaissant tour à tour comme objectives ou comme subjectives, suivant qu'elles sont considérées comme déterminant dans tous les esprits des réactions identiques ou des réactions diverses . . . " (p. 372). And again, " un phénomène est objectif . . . quand il réalise les conditions qui pour tout esprit normal, rendent cet accord possible, . . . il est subjectif, dans la mesure où l'impression qu'il laisse, varie avec les individus qui en sont témoins " (p. 377). How then, we might ask, can psychology be a science?

Where is the verification possible, on this definition? The author seems not to know this well-worn objection. The psychic atom or element, corresponding to the biological assimilation, is *affective tendency*. All psychical states may, it seems, eventually be stated in terms of these tendencies, combining, clashing, separating, etc. (pp. 423–464). Certainly the proposal is revolutionary enough to need a separate treatise. Can it be wise to make one's philosophy of scientific method depend on a thesis, to prove which one must first turn a certain science quite around?

Much of the discussion is taken up with the question of the relation of body and mind. The author is a parallelist (p. 390) on apriori grounds. The question whether or no there is quantity in mental states is decided in the affirmative (p. 415). The physiological equivalent of representation is "ionization" (cf. pp. 485–487). The ideal would be, by combining hypothetically the psychical elements, to deduce what kinds of states a conscious subject could have. The author tries a little of this (pp. 499–506); but it is hardly possible to criticise such an attempt adequately in passing. The last division but one of the book is entitled "Psychogénie" (p. 528) and has for its aim the synthetic deduction of the genetic side of psychology: of perception, conception, memory, imagination (pp. 528–562). It does not seem advisable for anybody to undertake so huge problems as the author here treats merely by the way. The whole of genetic psychology, the genesis of social modes (pp. 562–590), the transformation of psychology, and a deductive biology — these subjects must be, even in the barest outline, the work of many men at many different times. On the other hand, the general thesis of M. Maugé may perfectly well be defended as an ideal of science without one's proving just how in detail it might be worked out. We believe that its strength lies in the insistence on the intuitive side of science, and at the same time claiming for the apriori aspect an equal recognition. It is a splendid attempt on a very large scale to reconcile these two opposing tendencies of thought. Its greatest value, in the reviewer's opinion, is in the motive of inclusiveness which seems to dominate the author's work. At the end (pp. 591–606) is an excellent summary of the general philosophical position, clearing up many points which taken by themselves are a little obscure. On the whole, the style is rather difficult.

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Old Criticism and New Pragmatism. By J. M. O'SULLIVAN. Dublin. M. H. Gill & Son, 1909. — pp. xiii, 317.

This book consists of four essays. The first, which was presented to the faculty of the University of Heidelberg as a doctor's dissertation and

subsequently published as a monograph of the *Kant-Studien* (1908), constitutes about two-thirds of the volume. It is entitled " A Comparison of the Methods of Kant and Hegel, Illustrated by Their Treatment of the Category of Quantity " (pp. 1–206). The second essay bears the title of " Kant's Treatment of Causation: Some of Its Corollaries " (pp. 207–248). The third essay deals with " Pragmatism as an Epistemological Method in Its Relation to Criticism " (pp. 249–292), while the fourth is a " General Comment on Criticism and Pragmatism " (pp. 293–317). " In spite of their seeming diversity of subject, there is an underlying unity of purpose in these Essays. They are an attempt to exhibit, in part at least, the Kantian system as an immanent philosophical criticism of first principles; and, viewing the Critical Philosophy and Pragmatism from the standpoint of a different school, to lay bare the connection which exists between their theories of Truth in consequence of their attachment to Radical Empiricism " (p. vii). The first part of this twofold aim is undertaken in the first two essays; while the last two are devoted to the attempt to view Criticism and Pragmatism as allied methods.

The purpose of the first essay is to " exhibit the Kantian system as an immanent philosophical criticism of first principles," and to discuss the relation between the Kantian and the Hegelian methods, the comparison having reference primarily to the category of quantity and the treatment it receives at the hands of the two authors. First, the Kantian method, the critical, is differentiated from the Humian method, the psychogenetic. Kant is interested to find out the essential constitution of experience, and not to trace its historical origin and development either in the individual or in the race. His interest in experience is epistemological rather than psychological. He asks concerning its indispensable presuppositions: " the ' sources ' which he seeks are ' grounds' " (p. 6). These ' grounds,' of course, are the Kantian *a priori* elements within experience. But these *a priori* elements, these categories which make our experience possible, are not brought by Kant into organic relation to each other; " they present the appearance of standing in a mere outward relation to each other " (p. 32). " Everywhere disconnection, sharp opposition and contrast seems to reign supreme " (p. 33). Though this disconnection may be more apparent than real (and later on in his discussion the critic attempts to show that inner connection among the categories as Kant works them out is not wanting), still whatever inner connection there might be among them was not of primary interest to Kant and is not easily discovered. " As far as the Kantian philosophy was concerned we may therefore describe the task which lay before Hegel as follows: Expand and systematise the Kantian table of categories, so that their mutual relations and

positions shall be clearly defined and their necessity proved, and at the same time get rid of the subjectivism and its appanage, the Ding-an-sich" (p. 34). "Rejecting the psychological prejudices which still cling to Kant, Hegel's task is to discover the thought-forms immanent in reality. The system of categories in its entirety presents the very nature of mind — not, however, of mind as separate and standing apart from reality, but as constituting its very innermost essence" (p. 35). Thus the system of categories is, for Hegel, an organic whole, which, taken in its completeness, is nothing less than the expression of the Absolute essence. Hence the dialectical method of deducing the categories. This method is then summarized in some detail and is contrasted with the critical method of Kant. The nature of these two methods is explained more fully in a very detailed and withal very suggestive analysis of the category of Quantity as it is treated by both Kant and Hegel. For the purposes of this review it is perhaps hardly necessary to follow this analysis in any detail. The analysis is certainly a painstaking one and is evidently the result of careful study of this part of the Kantian and Hegelian systems. Many valuable hints and suggestions, as well as instructive interpretations of difficult passages in both Kant and Hegel, are to be found here. The essay closes with some remarks concerning the mathematical method in philosophy and in the sciences.

The second essay is a summary of Kant's discussion of Causality and a consideration of some of the consequences that follow from it. After a brief review of the difference between the positions of Hume and Kant on this problem, the critic proceeds to show the futility of Kant's so-called 'metaphysical' deduction of the category, and then passes on to a review of the 'transcendental' deduction, which is the real proof that Kant advances in favor of the objective validity of the category as against Hume's subjective account of its origin and significance. Kant's proof of the objective validity of the category, however, is inconsistent with his presupposition concerning the impossibility of the world taken as a whole being the object of possible experience. This proof can be allowed to Kant only on the 'streak' view of causation, namely, that an isolated event *b* is caused by another isolated event *a*. "But this is a very rough and ready way of treating the matter, often necessary perhaps in ordinary practical life and thought or in what after all is but a somewhat more exact form of the same attitude — ordinary experimental science. But this manner of thinking is scarcely exact enough for strict philosophic speculation. We must replace the abstract events *a* and *b* in the full concrete out of which we abstracted them. When this is done we recognize that cause and effect apply to the totality of the conditions and the totality of

the conditioned. . . . This emendation is necessary from Kant's point of view. Experience after all is not the consciousness of the objective succession of two isolated events *a* and *b*; it is rather the consciousness of a great complex of phenomena, in which each element has its definite place in space and time assigned to it" (p. 233). So Kant seems to be reduced to the following difficulties in his discussion of causality. In the first place, either he must give up the objective validity of causality or he must surrender the basis of his argument against rational cosmology. "Again, he must either renounce his subjectivism and phenomenalism, or else his hope of proving the validity of necessary synthetic *a priori* judgments" (p. 236). "He must finally either adopt a 'streak' view of causation or presuppose an 'ideally perfect experience' as given" (*ibid.*). Thus it seems that Kant fails to prove the absolutely necessary character of the laws of nature or else he surrenders certain fundamental assumptions of his system. Furthermore, his attack on empirical freedom must be rejected; even granting that he has established the *a priori* necessity of the principles of mechanical causation, still he has not shown that such mechanical causation can legitimately be applied to the realm of desires, to the world of the 'inner sense.'

The two essays above summarized are real contributions to the study of Kant and Hegel. They offer very satisfactory summaries of the methods of the two philosophers, and throw no little light on some of the dark passages in both bearing on the category of Quantity. The second essay, especially, puts in relief some of the difficulties which Kant has to face in his treatment of causation, and, by indicating the source of these difficulties, it suggests the way around them — though, unfortunately, the criticisms are not sufficiently constructive. Furthermore, the attempt on the part of the critic to work out an inner connection among Kant's categories is both interesting and instructive. Whether he does not read into the table of categories a greater degree of connection than Kant himself saw there may be a question open to debate. But surely Kant did see some degree of connection there, and it is well to have the fact stressed even at the risk of exaggeration.

An opportunity for adverse criticism might arise in connection with the critic's constant insistence that Kant's appeals are always and directly to experience, while Hegel moves in the realm of 'pure' thought in abstraction from experience. This insistence is not objectionable, provided one is always sure just what is meant by it; but one is not always sure just what the present author means by it. For example, he says: "In Hegel each step in advance is made through a consideration of what is involved *for pure thought* in the notion already reached; with Kant, on the contrary,

pure thought can do nothing, as far as advance in theoretical knowledge is concerned, and each step implies a constant reference to the one sufficient touchstone, the one possible criterion — the possibility of experience" (p. 151). "Though Hegel's categories have an application in the world of sense, yet in their character as forms for rethinking the world they have another and for Hegel a more important signification — they are expressions for the Absolute" (p. 155). These and other such passages might be construed to mean that the Hegelian categories are mere abstract ideas deduced by the machinery of the dialectic working entirely out of touch with experience, while the Kantian categories spring into being only because of their essential connection with experience. And this might give rise to a false conception of both systems. Of course Kant does emphasize experience; but the nature of the experience he is emphasizing must be borne in mind. And it must also be kept in mind that Hegel insists upon experience as strongly as does Kant, and that he deems his categories as much expressions of experience as "expressions for the Absolute" — indeed it is just in their experiential setting that the Hegelian categories are expressions for the Absolute. It is true that the critic does not entirely overlook this point. But his disposition to emphasize, perhaps over-emphasize, Kant's regard for experience causes him apparently to minimize the experiential basis of the Hegelian logic.

The last two essays occupy only about sixty-five pages of the book. The first of these deals with pragmatism as an epistemological method in its relation to criticism. The purpose of the essay the author states thus: "In the present paper I shall try to point out some striking affinities between Criticism and a mode of thought which in many respects is the very antithesis of Hegel's. In working out the implications of some of Kant's fundamental doctrines, whether we arrive at the absolutism of Hegel with its pantheistic leanings, or at the individualism of Pragmatism, which to many seems to verge on utter scepticism, and has decidedly a pluralistic bias, depends on the particular idea or aspect of the critical philosophy which we determine to regard as basic. That the pragmatists would be only too ready to repudiate the genealogy here suggested for them is immaterial to my purpose, which is simply to show that from certain points of view they may be regarded as the legitimate inheritors of the critical mantle" (pp. 353–354). Of course the writer does not mean to imply that pragmatism has its historical origin in criticism; what he is interested in is to disclose the similarities between the two as theories of truth. The element in criticism with which pragmatism is most closely related is the 'radical empirical' element: "the closest affinity is to be found in the radical empiricism and the insistence on the spontaneity of the

understanding in its theoretical use, which are common to both" (pp. 287–288). The second of the two essays with which we are now dealing closes the volume with some general remarks on the methods of criticism and pragmatism. The scope and purpose of this essay are indicated in the note appended at the end: "In the comments which bring these essays to a close no attempt is made to give anything approaching an exhaustive or adequate critical evaluation of Criticism and Pragmatism; their object has simply been to give a few of the objections which the special problems dealt with have suggested against these two systems of philosophy." The criticisms of both systems turn upon the subjectivism that attaches to them as theories of truth. Criticism is after all subjective idealism, though not subjective idealism in its cruder form. And in so far as pragmatism regards the individual consciousness as its starting-point, and holds the doctrine of 'radical empiricism,' it is open to the same criticism. But pragmatism has difficulties peculiar to itself. As a theory of truth, it falls into self-contradiction and lands us in relativity; ultimately it sinks into psychology. "It is not a Logic of truth and falsehood or a Logic of anything else; it is a confession of the futility of all Logic" (p. 317).

The intrinsic worth of these last two essays is open to question. Since the second purports to be only a very general statement of some of the difficulties involved in criticism and pragmatism, perhaps discussion of it should be withheld; and yet one must feel that the essay would have been much improved had its aim been more constructive. The first of these last two essays, however, is more justly open to adverse criticism. Whether the author succeeds in bringing to light any very fundamental similarities between the theories of criticism and pragmatism is more than doubtful. On the face of it this would seem to be a rather forlorn hope—unless, indeed, one does considerable violence to criticism in one's interpretation of it. After all, one must think, it is not a matter of chance as to the direction in which the implications of the Kantian system *logically* lead; the system does not give rise to the absolutism of Hegel or the individualism of the pragmatists indifferently. Of course, it is undoubtedly possible to find similarities between the theory of Kant and the theories of the pragmatists; but whether such similarities should be called 'striking affinities' is at least debatable. At any rate, that the 'affinities' which the present essays disclose between criticism and pragmatism are much less pronounced than the differences which it finds between the two theories is an interesting and, perhaps, instructive fact. On the showing of the essay, it would seem that the pragmatist yet has sufficient grounds to repudiate the genealogy suggested for him, and that he may still insist that the correct theory of truth must be worked out, not with the

aid of Kant, but in spite of him. Both these essays might well have had concise summaries of their contents.

But, on the whole, it seems to the reviewer less desirable to criticise the details of this book than to call attention to, and emphasize, the significance of its aim. The sort of philosophical criticism that is needed to-day is constructive historical criticism — an unsparing pruning of philosophical doctrines in the light of the lessons taught by the development of philosophical theories. Any book which attempts such criticism should, therefore, be welcomed. The present book is such an one, and so deserves and demands consideration. Its value would have been greatly enhanced, had it realized this aim in a more constructive fashion.

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NOTICES OF NEW BOOKS.

An der Grenze der Philosophie. Melanchthon — Lavater — David Friedrich Strauss. Von HEINRICH MAIER. Tübingen, J. C. B. Mohr, 1909. — pp. vi, 405.

As the title indicates, the purpose of this book is to discuss men and subjects that dwell on the border line of philosophy. While the three men that are brought into this unwonted juxtaposition within the covers of a single volume are not *Philosophen vom Fach*, they are nevertheless of considerable importance in the history of thought. In connection with each of the three, but particularly in the case of Melanchthon and Lavater, an extended and suggestive account is given of the intellectual environment in which the fortunes of the hero are cast. With considerable detail the author portrays the early humanistic leanings of Melanchthon, and then sketches the reaction, particularly against Aristotle, which he experienced as a result of Luther's influence upon him during his early years at Wittenberg. This reaction is followed by a return to the ancients, and by a protracted endeavor to combine an eclectic philosophy with the theology of the German Reformation. In this endeavor Melanchthon moves more and more in the direction of scholasticism. This appears particularly in his doctrine of law. The *lex divina*, *lex naturæ*, and *lex humana* are in Melanchthon's treatment unmistakably derived from a supreme *lex æterna*, quite in the spirit of Thomas Aquinas; and hence the author asserts that Melanchthon's entire doctrine of law is obtained from the Thomistic theology. On the metaphysical side a similar tendency towards scholasticism is discernible, a tendency which undoubtedly accelerated the subsequent movement in the direction of formal orthodoxy. In Melanchthon's work, consequently, there is much that is dangerous to the *Weltanschauung* which was peculiarly the contribution of the Reformation. In extenuation, however, the author points out that the need of harmonizing knowledge and faith, though not particularly felt by Luther himself, was nevertheless imperative. Moreover, Melanchthon himself was not a philosopher, as the character of his eclecticism abundantly attests; and since he was unequal to the task of reconstructing the current philosophy in a fundamental way, so as to achieve a more harmonious systemization of the new attitude introduced by Protestantism, he was obliged to use the tools which he found at hand. Melanchthon was a child of his time, and in spite of his shortcomings was able to serve his cause fruitfully in fostering solidarity, judiciousness, and a sense of continuity with the thinking of the past.

In Lavater we meet a personage whose claim to consideration as a philosopher is even smaller than that of Melanchthon. As a consistent and persistent opponent of the Enlightenment, his appeal is not primarily to argument,

but to the natural feeling and insight of the uncorrupted spirit. In so far as he ventures into the field of philosophy, he relies upon a sensationalistic epistemology combined with the 'principle of faith.' To the philosopher he is of interest mainly as a product and representative of the storm and stress period. In matters of reflection he is invariably feeble. This appears not only from his general conception of knowledge, but also from his inability to establish any connections with the philosophy of Kant, from his contrast between the 'religious sense' and the 'moral sense,' and from his disquisitions concerning physiognomy. While himself a wonderfully keen judge of faces, his attempts to put physiognomy and phrenology on a scientific basis are no longer worth considering, and were at no time remarkable for a display of analytic ability. They take for granted, for example, the existence of 'powers'; and in general his speculations, as might be expected, in view of his emotional and mystical temperament, are guilty of all manner of extravagances. Yet Lavater, rather than Jacobi or Herder, is the philosophical representative of the storm and stress movement. This revolutionary epoch, so significant for the philosophy and the cultural ideals of the subsequent period, owes much of its inspiration to the work on physiognomy and to the general attitude and personality of Lavater.

The discussion of Strauss devotes considerable space, as might be expected, to the attempt of the latter to work out Hegel's ideas in the field of religion. At the outset Strauss was satisfied to regard philosophy and religion as the same in content, though differing in the manner of presentation. Reflection finally convinced him, however, that the support given to Christianity by the Hegelian philosophy is more apparent than real. While Hegelianism is obviously inadequate to validate historical Christianity, Strauss was disposed to think that the truth contained in Christian myth and dogma might be philosophically legitimated. In his earlier work Strauss conceived of myth and dogma as the historical form in which the unconscious striving of the universal spirit finds expression for philosophical ideas. This religious intellectualism, however, gradually led him to the condemnation of all myth and dogma, since the difference between philosophy and religion in the manner of presentation inevitably affects the content of that which is known. And so Strauss's attempts at construction in the sphere of religion culminated in destruction and negation. As to the metaphysics of his later years, the interesting question is raised how Strauss accomplished the transition from Hegelianism to materialism. The answer to this question, so the author asserts, is not so difficult if we notice that Strauss carried his Hegelianism over into materialism. The meaning of this apparent paradox, we find, is that Strauss was mainly concerned to combat dualism and to affirm the ontological identity of mind and matter. For this reason the usual objections to materialism made no impression upon him. As he explained in a letter to Zeller, his philosophy conceives of fundamental reality in such a way that we are enabled to understand the nature of both mind and matter. This comment shows clearly that his chief interest is in the assertion of a basal identity, and that his ma-

terialism is not, at bottom, that of Vogt and Büchner. This also accounts for his contention that the dispute between idealism and materialism is merely a verbal wrangle, and that the important issue is the issue between monism and dualism.

The book is provided with an appendix of thirty closely printed pages, containing references and notes. But while it furnishes abundant evidence of scholarship and labor, its style is relatively untechnical and is both clear and pleasing, and those who are interested in the topics therein discussed will find in the work an ample reward for a careful reading.

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Lectures on the Experimental Psychology of the Thought Processes. By E. B. Titchener. New York, The Macmillan Company, 1909. — pp. ix, 318.

These lectures, delivered at the University of Illinois, in March, 1909, constitute the author's reply to the critical comment aroused by his lectures at Columbia University the preceding year, which were published under the title: *The Psychology of Feeling and Attention.* In that work the writer formulated his sensationalistic doctrine of the data of consciousness; in the present, he subjects to review the recent literature of the thought processes, with a view to the critical estimate of its bearing upon the problem of the existence of another than sensational and imaginal elements.

This literature presents the results of studies which have, in chief part, issued from the psychological laboratory. Its method, through inevitable selection, has been that of systematically controlled introspection — the *Ausfrageexperiment.* Against this method, which has aroused hostile criticism, the writer urges, incidentally, the only valid charge which can be brought against it, when he laments that in one series of experiments the observers were not allowed complete freedom of association, and says of another that the experimenter got back from his subjects pretty much what he put into their heads. There are two essential phases of laboratory work — reaction and introspection, the former of which must finally receive introspective interpretation, whether from subject or conductor. In the *Ausfrageexperiment* the latter of these phases is made central and exclusive. It seems the only way in which the field of thought processes can be approached; and the one danger by which the method is beset is that of suggestion, the danger that the reporter shall not give a full and unbiased account of his experience, but be determined in either the object of his attempts or the form in which his report is cast by the expectations or directions of the experimenter.

The discussion of experimental studies is preceded, in the first two lectures, by a general critical review of current conceptions of the elements and criteria of the psychical, with a view to establishing the methodological basis of sensationalism. The writer, at the outset, expresses the belief that differential psychology, which brings to light the variations in individual mental constitution, will do much to allay the perennial controversies of the text-books. The creation of a conventional conception, of the mental image for example,

may go far to account for a failure to recognize as imaginal types of experience which differ so largely as the kinæsthetic does from the visual. When the writer attempts the description of his own 'visual schemata' one is tempted to wonder whether this full and exact introspector has not failed to identify certain kinæsthetic phases of his own experience, on account of the dominance of the visual conception of imagination.

As to the first of the two methodological points urged, sensationalism is to be taken as a purely heuristic principle, the adoption of which is to be determined by its sufficiency for psychological analysis; it represents, indeed, the principle of economy which reflection is to bring to bear, at each stage of progress, upon the problem of analysis, in conceiving experience of meaning, attitude, or other 'non-imaginal' sorts, as hitherto unresolved complexes of sensational elements.

In the second lecture the author turns to a yet more serious defect of method, the confusion of logical with psychological criteria, of existential with referential aspects of experience. He deals with two forms, the discrimination of act and content, or 'immanent objectivity' (Brentano) and the inclusion of objective reference or 'transitive objectivity' (Stout). The former criterion lies closer than the latter to a true psychological point of view. It is, indeed, the result of a psychology of reflection, not of observation, and thus falsely reads into the qualitative content of an experience that which is properly a logical implication of the situation; but it is based on a true psychological distinction, that, namely, between the temporal course of a mental process and its qualitative specificity.

With transitive objectivity the writer is less patient. It makes the intention, or direction upon an object, the specific criterion of the psychical. To this it is replied, first, that such pointing appears also in the physical world, as in the mutual implications of organization, and, secondly, that it is not universal within the psychical field. I am not persuaded that, in the essential meaning of the term as applied to consciousness, this character does appear within the physical world. The point may be raised whether the writer himself does not here pass from the standpoint of observation to that of reflection. But this possibility, indeed, is recognized in the Lectures, in the reference to a distinction between mere *Hinweisen* and an *inneres Bezogensein*. The essential point of the writer's criticism, however, is that transcendence has no place within psychology, — and a more weighty and needed reminder could not be urged. The extra-mental term must not be included without a distinct recognition that one is leaving the very ground of analytical psychology, and passing over to the field of logical and practical relations.

The third and fourth lectures of the series discuss the summary results of the work of Marbe and Orth, of Watt, Ach and Messer, and, more incidentally, of Woodworth and Binet. Two general conceptions emerge from the multitude of details, that of conscious attitude — *Bewusstseinslage* — and that of thought-element. Of the nature of the *Bewusstseinslage* the various writers in question can say relatively little; of its behavior they say much.

In general, conscious attitudes are described as of two types, intellectual — awareness of meaning — and emotional — awareness of relation — with certain intermediate forms, such as Ach's 'awareness of determination' and 'awareness of tendency.' The *Bewusstseinslage* is susceptible of manifold elaborations, the range of which may be expressed in the Author's words — since *meaning*, for the analytical psychologist, is to be found in the idea's contextual relations — that "the meaning of a word has a continuous scale of representations in consciousness, from the zero-point of inseparable fusion with look or sound of the word itself up to distinct realization as a group of visual and verbal associates."

The other aspect of this matter of conscious attitudes is the direction, as serial determination, of consciousness with which they are connected, the problems of the *Aufgabe*. The distinct formulation of this factor, the writer considers, 'has made it impossible for any future psychologist to write a psychology of thought in the language of content alone,' and he sees in this principle, in alliance with genetic sensationalism, a hopeful guide to future experimental study. We must consider in their mutual implications these two forms, or elements of meaning, the context of ideas in the 'closed consciousness,' and the *determinierende Tendenzen* which the temporal course of the mental process reveals. The first raises a specific problem of the qualitative content of consciousness, and of it the writer says in conclusion that meaning is always in context, — I take this to mean context in the 'transverse section' of consciousness — and 'is carried by all sorts of sensational and imaginational processes.'

In the second form of experience, where not even the *Aufgabe* comes to consciousness, is the analytical psychologist consistent in using the term 'meaning' at all? The writer says: "I doubt if meaning need necessarily be conscious at all, — if it may not be 'carried' in purely physiological terms." In such cases there is no discoverable psychical context, in the first meaning of the term; one must make the 'longitudinal section' of consciousness and find meaning in the relations which the successive phases of the mental process exhibit. Is not this a psychology of reflection, involving the fallacy of substituting logical implication for psychological observation? Reflection may of course thus unify the temporal elements of a given bit within the stream of consciousness under a single concept; but is it not rather correct, in such cases, to say simply that meaning has lapsed, since meaning, as qualitative constituent of consciousness, has disappeared and only organization remains.

The second problem is that of an independent thought-element. The writer premises his discussion by the reminder that here as elsewhere the requirement is imperative that an existential treatment shall be followed; the so-called 'intentional' character of thought — in which, moreover, it in no wise differs from memory, for example — must not seduce reflection into substituting a referential standpoint for that of analytical psychology. Having in mind this distinction between intimation — *Kundgabe* — and description, — *Beschreibung* — the assertion of a mental element, the ultimate unit in our

thought-experience, is directly challenged: "The observer is not describing his thought but reporting what his thought is about; not photographing consciousness, but formulating the reference of consciousness to things." Conscious attitude and thought-element, in a word, are problems formulated for introspective analysis, not the final solution of such problems; and to the same category the Author assigns the manifold feelings of relation.

These Lectures are much more than a critical resumé of recent experimental literature. They present, in the first place, an exemplary case of the method of introspection; a penetrative and discriminating analysis is reported in simple and untechnical terms. Both the body of the Lectures and the appended notes, in the next place, are filled with pertinent comment regarding the conceptions and mechanics of experimentation. In the field of methodology the discussion is incisive and clarifying; from instances too many to be enumerated may be selected: the identification of the tasks by which the observation of physical science and the introspection of psychology are confronted, the discussion of the difficulties of introspection and of the stimulus-error, the summary of experimental methods in general together with technical criticism of the special investigations under consideration, the opposition of analytical and integrative conceptions in psychology, the separation of logical from psychological point of view, and the demarcation of the latter in a series of problems. Every beginner of laboratory work will find the book worth reading as an introduction to the experimental habit of mind.

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The Autobiography. A Critical and Comparative Study. By ANNA ROBESON BURR. Boston and New York, Houghton Mifflin Company, 1909. — pp. viii, 451.

The author of this work had a golden opportunity, yet a path beset with danger, especially at the beginning. Despite the ostensible modern interest in types of literature, very few of the recognized kinds have ever been methodically described, and the autobiography is not one of the few. Such tentative efforts as McNicoll's study (in *Essays on English Literature*, London, 1861 — not cited by Mrs. Burr) are hardly worth mentioning; nor does Professor James's *Varieties of Religious Experience*, though it brings together not a few examples of at least one form of confession, and has been a source of inspiration to the writer of this book, contain precisely an investigation into the nature of a literary species. In any case, the wide field of autobiography was as open to an original application of the scientific method as the field of tragedy was before Aristotle wrote the *Poetics*, or the field of the dialogue before the significant treatise by Hirzel.

It may seem unfair to appraise a recent work by standards such as those that underlie the *Poetics*, but on reflection this sort of comparison becomes inevitable; for the Aristotelian method, if we choose to call it so, is essentially the only possible one in the strict examination of a literary type. Indeed, we may ascribe the actual poverty in this branch of modern criticism to the fact

that, however much attention has been given since the Italian renaissance to the results of Aristotle's procedure in relation to the drama and the epic, the essentials of the procedure have not often been clearly apprehended. So far as we now can discover, his fashion of investigating must have been somewhat as follows.

Starting with the Platonic assumption that a literary form, an oration, for example, or a tragedy, has the qualities of a living organism, Aristotle advanced to the position that each distinct kind of literature must have a definite and characteristic activity or function, and that this specific function or determinant principle must be equivalent to the effect which the form produces upon a competent observer; that is, form and function being as it were interchangeable terms, the organism *is* what it does to the person who is capable of judging what it does or ought to do. Then further, beginning again with the general literary estimates, in a measure naïve, but in a measure also learned (see *Poetics*, 15, 9), that had become more or less crystallized during the interval between the age of the Attic drama and his own time, and that enabled him to assign tentative values to one play and another, the great critic found a way to select out of a large extant literature a small number of tragedies which must necessarily conform more nearly than the rest to the ideal type. As in the *Politics*, which is based upon researches among a great number of municipal constitutions, yet with emphasis on a few, so in the *Poetics* his inductions for tragedy must repose upon a collection of instances as complete as he knew how to make it without injury to his perspective; that is, his observation was inclusive so that he might not pass unnoticed what since the days of Bacon we have been accustomed to think of as 'crucial instances.' By a penetrating scrutiny of these crucial instances in tragedy, he still more narrowly defined what ought to be the proper effect of this kind of literature upon the ideal spectator, namely, the effect which he terms the 'katharsis' of pity and fear, and such like disturbing emotions. Then, reasoning from function back to form, and from form again to function, he would test each select tragedy, and every part of it, by the way in which the part and the whole conduced to this emotional relief. In this manner he arrived at the conception of an ideal structure for tragedy, a pattern which, though never fully realized in any existing Greek drama, must yet constitute the standard for all of its kind. He proceeded, in fact, as the sculptor does, who by an imaginative synthesis combines the elements which he has observed in the finest specimens of humanity into a form more perfect than nature ever succeeds in producing; or as the anatomist, whose representation of the normal bones and muscles is likewise an act of the imagination, ascending from the actual to an ideal truth, and is never quite realized in any individual, though partially realized in what one would consider a 'normal' man.

In the case of a literary type, then, the form is, or is determined by, its essential quality or function; so that an adequate knowledge of the function, though it is the crowning fruit in the study of a type, must be implicit in the beginning of the study. The investigations made by the author of this book

into the nature of autobiography do not betray such a knowledge at the outset, or cause it to emerge in the process of her work. Her ill-defined notion that the purpose of the subjective memoir is to provide Tom, Dick, and Harry with a faithful friend is scarcely scientific. If the notion of friendship were analyzed in the light, say, of the Platonic, Aristotelian, and Ciceronian conceptions, and the friendly relations to be established by the autobiographer were thought of as designed, not for Tom, Dick, or Harry, but for Aristotle's ideal spectator, or Hamlet's one judicious person out of a theatre full, or one of the fit though few in the audience desired by Milton, more might be made of her suggestion. However, the reviewer will not hazard a statement of what the true function of this kind of literature may be; nor if, as is likely, under the term autobiography are to be included several distinct sorts of composition, is it his hope to differentiate these according to their specific aims. This is what should have been attempted in the book which we are examining; and it should have been done with the assistance of a trained psychologist.

Mrs. Burr does, it is true, distinguish between the objective memoir, the writer of which, like Xenophon or Cæsar, relates external history as an impartial witness — if that be the case — and the subjective memoir, in which the author professes to lay bare his own intimate experiences. The objective memoir she quickly dismisses as not being within the province of her research; she dismisses it without a suggestion that even under this head there may be as many different kinds as there are purposes in the minds of the witnesses, and emotional effects naturally arising from the contemplation of tragic, comic, and pathetic, or humorous, or shocking events in history. Among subjective autobiographies she arbitrarily considers those to be typical in which the author as candidly and rationally as possible gives, so to say, a photographic representation of his own inner development. And thus, strangely enough, neglecting the traditional verdict, as Aristotle would not have done, she lays inadequate emphasis or none upon the autobiographical writings of Augustine, Dante, Bunyan, and Rousseau, and comes to regard the not very well-known *Vita Propria* of Cardanus as the most suitable of all memoirs for the center of her study. She goes on to say that Cardanus 'is among the first manifestations of what we term the scientific spirit' — which probably is nonsense to those who are familiar with the *Animalia* or *De Anima* of Aristotle, as it certainly is nonsense to any one acquainted with Dante's treatise *On the Vernacular Language*. Her failure to take account of Dante is surprising. Two or three glib allusions to the *Divine Comedy*, and the total absence of remark upon the *New Life* — the work is not even mentioned in her long, and on the whole valuable, bibliography — indicate the obvious limits of Mrs. Burr's literary and historical perspective. The evolution of the type, or types, which she has chosen to dissect is evidently connected with the change which has taken place in the value set upon the individual life by modern as against ancient times; and this change may have been so gradual as to prevent us from saying that here or there is the critical moment when classical objectivity passes over into modern romantic subjectivity;

but if there is any such turning-point, is it not to be found in the thirteenth century rather than the sixteenth, and in the writings of Dante rather than Cardanus?

The objection to assuming that the photographically scientific memoir ought to be taken as the center of a study like Mrs. Burr's, rather than the poetical or imaginative, may, however, be set forth in another way, which is suggested by what has been said above concerning function as the determinant principle of a type. The assumption implies that the material or substance of a memoir or autobiography, whether literally or imaginatively true, is of greater importance than the end for which it is collected, sifted, and organically arranged. But it is obvious that the purpose of the author, and the function of the type which he has chosen, determine the material or means which he uses, and not the reverse. If he deliberately lies, as Chateaubriand seems to have done, and tries to palm off as a photographic record what is demonstrably false, he will be at cross-purposes with himself, and the censure of his effort by the historian will not be long delayed. But suppose that, like Dante, and the host of those whom the *New Life* has animated, the author, being a poet, and — to adapt the observation of Sir Philip Sidney — neither affirming nor denying the truth of the photographic record, should deal with his experiences as poets are wont to deal with all other experience; suppose that, obeying the highest law of his nature, he should, out of the plastic elements of his own life, construct an ideal, not of what he has been, or is, but of what he ought and is to be; are we to judge of the result by the inch-worm measure of an ephemeral pseudo-science, or of meticulous fidelity to a standard of literalness with which the poet has but a secondary concern? Are we not rather to judge it by the feeling of exaltation, and of admiration for a lofty ideal of humanity, which he arouses in the soul of the qualified reader? Misled by an overconfidence in the present attainments of modern experimental psychology which its most able followers do not share, and deriving more nutriment from a bygone tribe of necessitarian and physiological critics in France — Taine and his clan — than the coming generation can afford to accept, Mrs. Burr has failed to base her study upon the solid foundations for literary investigation that were laid by the Greeks, confuses means and ends in observing the materials that she has industriously collected, and sets a premium on scientific prose, as against imaginative literature, that the cultivator of belles lettres will not readily allow.

The main value of her work arises from her industry in collecting materials, above all in the bibliographical lists. Her Bibliography of Autobiographical Writings is, of course, incomplete, for no one person is able to cope with so extensive a literature. However, some of the omissions are odd — beginning with Dante. If her lists are ever reconstructed, the following entries may be useful. For the sake of brevity, only the names of the authors are given:

Amiel, Blaine, Sir Thomas Browne, Catherine of Sienna, Clemens, Dante, Ulysses S. Grant, Sir Henry Holland, Charles Lamb, Max Müller, Occleve,

Silvio Pellico, Rockefeller, Baroness Sutton, George Francis Train, Gideon Welles, Andrew D. White, Oscar Wilde.

The text and index might be searched for titles not included in the bibliography, as for example, Ashmole, Evelyn, Wesley.

A word must be added on her style, which is generally diffuse, at times muddy, and often pretentious; and on her index, which is untrustworthy: see, for example, the second, eleventh, and twelfth references to Augustine.

LANE COOPER.

CORNELL UNIVERSITY.

Clavis Universalis. By ARTHUR COLLIER. Edited, with Introduction and Notes, by ETHEL BOWMAN. Chicago, The Open Court Publishing Co.; London, Kegan Paul, Trench, Trübner, & Co., 1909. — pp. xxv, 140.

The Open Court Publishing Company has again placed students of the history of philosophy under real obligation by continuing its liberal policy of publishing philosophical classics because they are needed, and not because their publication, in the individual case, is an attractive financial venture. It was a particularly happy thought on the part of all concerned to publish a popular edition of Arthur Collier's *Clavis Universalis* (1713), presumably mentioned in most courses on the history of philosophy in connection with Berkeley's *Principles of Human Knowledge* (1710), but hitherto beyond the reach of students who had not access to a fairly adequate philosophical library.

In the "Prefatory Note," the editor says: "This edition of the 'Clavis Universalis' is an exact and verified copy of the essay as it appears in Dr. Parr's 'Metaphysical Tracts of the Eighteenth Century.' . . . The Introduction and Notes are modified extracts from a Master's thesis accepted by the faculty of Wellesley College. They aim to show the direct dependence of Collier upon Des Cartes, Malebranche, and Norris, as well as the parallelism of Collier and Berkeley." And we are further told: "The thanks of the editor are due to Professor Mary Whiton Calkins who suggested and directed the work. . . ."

It is not clear to the reviewer why this reprint should have been made from the text of Dr. Parr's *Metaphysical Tracts* (1837), instead of from the text of the original edition (1713). While neither volume is particularly easy to obtain, neither is (as the reviewer can testify) by any means "excessively rare," to use the jargon of the second-hand book trade. Even aside from the natural, and certainly legitimate, preference for a copy from an original as against a copy from a copy, we learn from the "Advertisement" to the *Metaphysical Tracts* the following: "The present volume, prepared for the press by the late Dr. Parr, was nearly ready for publication when that learned person died. . . . The proprietor regrets that the printing and the paper are of an inferior kind, and that there are many typographical errors which need correction. . . ." But to pursue this criticism further would be uncalled for, if not unjust. The present reviewer insists on preferring his copy of the first edition of the *Clavis Universalis* to his copy of the (confessedly none too accurate) reprint; but he can assure the timid student that the text as reprinted in the *Meta-*

physical Tracts is quite accurate enough for all practical purposes, while nothing but the original, of course, would do for most technical purposes. Nothing in the text could easily compare for picturesqueness with the (actual) title-page of this edition, where it reads: "Regan Paul, French, Trübner & Co." (charitably corrected by the reviewer).

The 'Introduction' and 'Notes' are of modest compass, and both are in good taste and fairly competent. They serve the purpose of the present popular edition, and certainly they are all that could reasonably be expected from "modified extracts from a Master's thesis." But work of this editorial kind could have been done still better by a more practiced hand. For example, the editor says in the introduction: "The book seems to have attracted little or no attention even at the time of its publication. Had not Dr. Reid chanced upon it in the library at Glasgow, it might never have been known. Reid appreciated the value of the book, and in his 'Essays on the Intellectual Powers of Man,' published in 1785, gives it brief notice" (p. vii). And yet we read, a few pages further on: "In Germany, Collier met with recognition sooner than in his own country, through a full and able abstract of the 'Clavis Universalis' made in the year 1717. This was published in the sixth supplemental volume of the 'Acta Eruditorum'" (p. xi). Not only so, "But John Christopher Eschenbach, Professor of Philosophy in Rostock, was the first to make the full text of the 'Clavis' available for German scholars. . . . Eschenbach published this translation in 1756" (pp. xi, xii). Such inadvertences do not, of course, indicate a corresponding confusion in the mind of the editor, but the general reader is likely to be puzzled, if not misled, by partly conflicting statements like these.

ERNEST ALBEE.

CORNELL UNIVERSITY.

Some Aspects of Rabbinic Theology. By S. SCHECHTER. New York, The Macmillan Company, 1909. — pp. xx, 384.

The book, as the author tells us, is not a systematic theology of Judaism, or of Rabbinism. Indeed, the author himself suggests, and rightly so, that in so far as the Talmudic sages are concerned, no systematic and logically or metaphysically consistent theology is possible. The Rabbis were not philosophers in the narrow sense of the term, hence they neither sought for the universal, nor did they drive principles to their ultimate conclusions. They were men of life and of action, and the particular and the living was the object of their attention. The complexities and the inconsistencies of life are reproduced in the complexities and inconsistencies of the "sea of the Talmud." True enough, philosophical, theosophical, and theological notions floating in the atmosphere of the time were breathed in and assimilated by some of the Rabbis, but the very act of assimilation in their case means that they absorbed detached notions rather than systems or universal principles with all their implications and ramifications.

All this is plainly evident to any one who reads the Talmudic and Midrashic writings, however little of them he reads or however much. And Professor

Schechter did well in letting the Rabbis speak for themselves. We thus see that although the author groups his treatment of the "Aspects of Rabbinic Theology" under a few general heads, these heads are in the first place of the author's own making, and in the second place, within these groupings, it required the great erudition and skilful combination of a man like Schechter to make the several chapters units. And with all this these chapters have rather the aspect of an accumulation of more or less varying citations than of an argument advancing by a successive synthesis or analysis.

The great value of this very valuable work is that it is written by a man who is a master of his subject, but not in the way in which an archæologist may be master of his subject. Dr. Schechter has the peculiar advantage of knowing intimately, and not merely from study but from life, the subject with which he deals; his sympathy is not merely a literary attitude, but a deep-seated feeling; and he feels keenly the misrepresentations of other writers, whose sympathy is rather the other way. He is with all this so modern as to make his point of view and treatment valuable and appealing to the layman and the general reader, as well as the specialist and the theologian.

The introductory chapter is especially valuable and interesting, orienting the reader in the author's point of view, as well as in his subject and his sources. The subject matter proper is grouped under seventeen heads treated in so many chapters, with the following titles: God and the World; God and Israel; Election of Israel; The Kingdom of God (Invisible); The Visible Kingdom (Universal); The Kingdom of God (National); The Law; The Law as Personified in the Literature; The Torah in its Aspect of Law; The Joy of the Law; The Zachuth (merit) of the Fathers (Imputed Righteousness and Imputed Sin); The Law of Holiness and the Law of Goodness; Sin as Rebellion; The Evil Yezer (יצר); The Source of Rebellion; Man's Victory by the Grace of God; Over the Evil Yezer Created by God; Forgiveness and Reconciliation with God; Repentance; Means of Reconciliation.

Among the doctrines upon which he chiefly lays stress, because generally misrepresented, are the Rabbinic conception of the Relation of God to the World. He proves by a host of citations that the current notion "of the transcendentalism of the Rabbinic God and his remoteness from man" is a myth. The homiletical as well as the devotional literature are full of evidence to the contrary.

"Rabbinic legalism and formalism" is another formula of long standing, the truth of which Schechter combats, especially in the chapter on the "Joy of the Law."

It is the only work in English treating of this subject in an authoritative and sympathetic manner, and it is to be hoped that the gifted author may be given the leisure soon to publish the "other aspects of Rabbinic Theology" which he promises.

ISAAC HUSIK.

UNIVERSITY OF PENNSYLVANIA.

John Balguy, an English Moralist of the Eighteenth Century. By HUGH DAVID JONES. Leipzig, Quelle & Meyer, 1907. — pp. 70.

The Fundamental Principles involved in Dr. Edward Caird's Philosophy of Religion. By W. O. LEWIS. Leipzig, Quelle & Meyer, 1909. — pp. 62.

These two monographs belong to the series *Abhandlungen zur Philosophie und ihrer Geschichte*, edited by Falckenberg in Erlangen. And in their respective ways they illustrate the types of work to which the series is devoted. Dr. Jones's treatise is an investigation, carefully executed and the first on its subject, of a special question from past philosophical history. Dr. Lewis discusses a system of recent and contemporary importance. The one is a study of a hitherto untilled corner of the field; the other deals with problems and principles which as yet have not become historical.

Balguy was a minor moralist of the earlier part of the eighteenth century. A friend and disciple of Samuel Clarke, he in general defended the positions of his master against the sentimental ethics of moralists such as Hutcheson, and in theology against Tindal and others of the Deistic school. In ethics Balguy's principal work was *The Foundation of Moral Goodness*, published in 1728–9. In this he moderates the mathematical method of Clarke, reducing it to a "signification somewhat figurative" (p. 34); but he adheres to the rationalistic principle, emphasizing reason as against moral sense or instinct, and founding morality on "truth" or "the fitness" or "reasons of things." This "in his opinion supplies what may be called an ethical major premise, out of which all the particular duties of life, such as benevolence, self-regard, etc., can be inferred and welded into a systematic unity" (p. 48). The chief influence of Balguy's ethical thinking appears to have been on Price (pp. 60–65).

Caird's philosophy of religion finds a less sympathetic expositor and critic in Dr. Lewis. The system is outlined first in its general principles, and then its applications in detail. Under this second head are considered "objective religion," "subjective religion" with Buddhism, Stoicism, and Judaism as types, and "Christianity the absolute religion," as the writer follows out the argument in Dr. Caird's *Evolution of Religion*. So opportunity is made for an evaluation of the doctrine as well as for its statement and interpretation. In this estimate Dr. Lewis mingles appreciation and criticism. But since he writes from the standpoint of traditional orthodoxy, his comments for the most part fall out in the negative sense.

A. C. ARMSTRONG.

WESLEYAN UNIVERSITY.

The Child and His Religion. By GEORGE E. DAWSON. University of Chicago Press, 1909. — pp. 124.

This monograph is dominantly a statistical study of the child's religious interests as obtained by questionary on 1,000 children of ages varying from eight to twenty years. This is introduced by a discrimination of the meaning of interest as employed in the book. The author differentiates it from the Herbartian use as apperception by regarding it as not merely conscious re-

sponse but as adjustment of the whole life, promoting survival — "biological responsiveness" as he calls it. Interests in this sense will arise in a certain sequence with the developement of the nervous system. And should they not be given free exercise when ripened they will atrophy. Faulty instruction by neglecting them produces arrested development. Religious instruction must recognize the order of arising and ripening of religious interests in the child and minister to them by selected material so as not to suppress them.

The child like the race (shown by anthropology, ethnology and comparative religion) is essentially religious, as Froebel recognizes. They are both animistic, personalizing nature and playthings. They both have the instinct of causality which seeks a creator. And they both have the instinct of immortality. As Street says "man (and this applies to the child) has to learn his mortality rather than his immortality." Then also they abound in the religious qualities of faith and good will.

Some of the main facts obtained are the following: (1) At eight years both sexes prefer the New Testament to the Old, due likely to the child's interest in the child Jesus. (2) This preference declines in favor of the Old Testament up to 14 years, due to the heroic scenes and persons of the Old. (3) From adolescence on the New Testament is preferred, due to its satisfying better the altruistic and reflective interests which then appear as contrasted with the egocentric interests earlier that delighted in the revenges, fears, of the Old Testament. (4) At eight years historical and gospel books of the Bible are preferred. Then the literary and prophetic books come more in favor before adolescence. With adolescents the Gospels come first, supplying their need of a personal guide and philosophy of life. (5) The larger percentage of children of all ages are more strongly attracted to the personal elements of the Bible than to any other.

The author draws appropriate inferences from the facts found as to the reformation of religious training offered the young. It should always be presented by the personal elements of the Bible, the child Jesus, David, John, Paul, the adult Jesus, etc. The material should be selected and be different for different ages. The contrast of the natural and the supernatural should cease and the child should learn that all nature is divine and the laws of nature are the laws of God.

WILMOT B. LANE.

RANDOLPH-MACON COLLEGE.

The Psychology of Prayer. By ANNA LOUISE STRONG. University of Chicago Press, 1909. — pp. 119.

This is an interesting study of the psychology of the prayer experience from the standpoint that man is born as social, that he "does not acquire society." The general basis of the study is that of the "Chicago School" as expressed in Dewey's Logical Studies.

A self is not a substance but is a process of consciousness which is from the first social. The primitive hunger and pain consciousness is a vague social world which contains a self as felt need and other selves that minister to that

need. By this personal relation it is always becoming a different self, a process of growth which Cooley calls an "imaginative social process." All thinking is in its very nature a movement within such a personal relation; "the mind lives in a perpetual conversation." Prayer is one form of this imaginative social process by which out of the communion of two, self and alter, a larger selfhood is achieved.

Children and primitive peoples are undiscriminating in their use of prayer, failing to distinguish personal and impersonal means to ends, their religious from their general needs, in their attempt to meet their problem. This discrimination comes by finding that results do not come from prayer, and by learning that it is not proper to employ the personal appeal to the higher ethical self for trivial needs.

A higher, though not the highest, socialized type of prayer is that which seeks "objective results," such as victory in battle, cure of disease, etc. These secure a more confident self, an absence of worry, which lead to results desired.

The fully discriminating and social types of prayer show two main forms: (1) The contemplative or æsthetic represented by the mystic, Buddhist, ritualistic forms of prayer and by the adoration prayer of all religions; (2) the practical type, such as conversion and revivalist prayers and the 51st Psalm, which make the prayer state a quick bridge to moral action. Both types establish the wider selfhood, the one by more or less quiescent communion, and the other by moral reinforcement with the thought of additional strength and a mighty ally.

The problem of the objective reference of prayer is handled in the characteristic instrumental way. The two selves of prayer, alter and ego, are imaginative organizations of consciousness for the sake of the ongoing of that consciousness. Psychologically they have the same kind of reality, *viz.*, in the social relation, and the only real is the final self which emerges out of the process. The alter is a necessary means to an end and in this sense has objective reality. Psychologically this is all; the rest is for metaphysic to decide.

WILMOT B. LANE.

RANDOLPH-MACON COLLEGE.

The following books also have been received:

Science and Religion in Contemporary Philosophy. By É. BOUTROUX. Translated by JONATHAN NIELD. London, Duckworth and Co., 1909. — pp. xi, 400.

Attention and Interest. A Study in Psychology and Education. By FELIX ARNOLD. New York, The Macmillan Co., 1910. — pp. viii, 272.

The Principles of Pragmatism. By H. HEATH BAWDEN. Boston and New York, Houghton Mifflin Co., 1910. — pp. x, 364.

Anti-Pragmatism. By ALBERT SCHINZ. Boston, Small, Maynard and Co., 1909. — pp. 317.

Lucretius On the Nature of Things. Translated by CYRIL BAILEY. Oxford, at the Clarendon Press, 1910. — pp. 312.

The Duty of Altruism. By R. M. MCCONNELL. New York, The Macmillan Co., 1910. — pp. 255.

The Philosophy of Happiness. By R. W. JOSLYN. Elgin, Ill., Normalist Publishing Co. — pp. 200.

The Metaphysics of the Nature and in the Conception of the Soul — Its Habitat. By JOSEPH CLEMENTS. Boston, The Roxburgh Publishing Co., 1909. — pp. 112.

The Mission and Ministration of the Holy Spirit. By A. C. DOWNER. Edinburgh, T. & T. Clark, 1909. — pp. xxx, 347. $3.00

Stoic and Epicurean. By R. D. HICKS. New York, Charles Scribner's Sons, 1910. — pp. xix, 412.

Faith and Its Psychology. By W. R. INGE. New York, Charles Scribner's Sons, 1910. — pp. x, 244.

The Philosophy of the Enlightenment. By JOHN GRIER HIBBEN. New York, Charles Scribner's Sons, 1910. — pp. xii, 311. $1.50.

Philosophy and Religion. By HASTINGS RASHDALL. New York, Charles Scribner's Sons, 1910. — pp. xvi, 189. $0.75.

A Critical Introduction to the New Testament. By ARTHUR S. PEAKE. New York, Charles Scribner's Sons, 1910. — pp. xii, 242. $0.75.

Israel's Ideal. By JOHN ADAMS. Edinburgh, T. & T. Clark, 1909. — pp. xi, 232.

The Dualism of Fact and Idea in its Social Implications. By ERNEST LYNN TALBERT. Chicago, The University Press, 1910. — pp. 52.

A Commentary on Hegel's Logic. By JOHN M. E. MCTAGGART. Cambridge, at the University Press, 1910. — pp. xv, 311.

Eduard Zeller's Kleine Schriften. Herausgegeben von OTTO LEUZE. Band I, Berlin, Georg Reimer, 1910. — pp. vi, 498. M. 12.

Friedrich Nietzsche: sein Leben und sein Werk. Von RAOUL RICHTER. Zweite, umgearbeitete und vermehrte Auflage. Leipzig, Verlag der Dürrschen Buchhandlung, 1909. — pp. viii, 356. M. 4.80.

Grundzüge der physiologischen Psychologie. Von WILHELM WUNDT. Sechste, umgearbeitete Auflage. Band II. Leipzig, Wilhelm Engelmann, 1910. — pp. viii, 782. M. 15.

Ueber den Willensakt und das Temperament. Von NARZISS ACH. Leipzig, Quelle und Meyer, 1910. — pp. xi, 324. M. 6.50.

Immanuel Kant. Von E. VON ASTER. Leipzig, Quelle und Aster, 1910. — pp. 136. M. 1.

Die menchliche Geistestätigkeit in der Weltentwicklung. Von AUGUST J. GISS. Leipzig, A. Deichert, 1910. — pp. xvii, 278.

Die taktile Schätzung von ausgefüllten und leeren Strecken. Von HELEN DODD COOK. Leipzig, Wilhelm Engelmann, 1910. — pp. 130.

Die Welt als Arbeit. Von OSKAR NAGEL. Zweite Auflage. Stuttgart, Franckh'sche Verlagshandlung, 1909. — pp. 208.

Gustav Class' Philosophie im systematischer Darstellung. Von HANS RUST. Leipzig, Quelle und Meyer, 1910. — pp. 101. M. 3.

Kants Begründung der Ethik. Von HERMANN COHEN. Zweite verbesserte und erweiterte Auflage. Berlin, Bruno Cassirer, 1910. — pp. xx, 557.

Les pères de la révolution. Par JOSEPH FABRE. Paris, Félix Alcan, 1910. — pp. ii, 764.

Le droit et la sociologie. Par RAOUL BRUGEILLES. Paris, Félix Alcan, 1910. — pp. 162.

L'ame de l'adolescent. Par P. MENDOUSSE. Paris, Félix Alcan, 1910. — pp. v, 315.

Rationalisme et tradition. Par JEAN DELVOLVE. Paris, Félix Alcan, 1910. — pp. 177. 2 fr. 50.

La philosophie de Léonard de Vinci. Par PÉLADAN. Paris, Félix Alcan, 1910. — pp. xvi, 189.

Les mensonges de la vie intérieure. Par GABRIEL DROMARD. Paris, Félix Alcan, 1910. — pp. ii, 181.

Aristote et l'idéalisme Platonicien. Par C. WERNER. Paris, Félix Alcan, 1910. — pp. xii, 370.

SUMMARIES OF ARTICLES.

[ABBREVIATIONS.—*Am. J. Ps.* = *The American Journal of Psychology; Ar. de Ps.* = *Archives de Psychologie; Ar. f. G. Ph.* = *Archiv für Geschichte der Philosophie; Ar. f. sys. Ph.* = *Archiv für systematische Philosophie; Br. J. Ps.* = *The British Journal of Psychology; Int. J. E.* = *International Journal of Ethics; J. of Ph., Psy., and Sci. Meth.* = *The Journal of Philosophy, Psychology, and Scientific Methods; J. de Psych.* = *Journal de Psychologie; Psych. Bul.* = *Psychological Bulletin; Psych. Rev.* = *Psychological Review; Rev. de Mèt.* = *Revue de Mètaphysique et de Morale; Rev. Nèo-Sc.* = *Revue Nèo-Scolastique; Rev. Ph.* = *Revue Philosophique; Rev. de Ph.* = *Revue de Philosophie; R. d. Fil.* = *Rivista di Filosofia e Scienze Affini; V. f. w. Ph.* = *Vierteljahrsschrift für wissenschaftliche Philosophie; Z. f. Ph. u. ph. Kr.* = *Zeitschrift für Philosophie und philosophische Kritik; Z. f. Psych.* = *Zeitschrift für Psychologie und Physiologie der Sinnesorgane, I. Abtl.: Zeitschrift für Psychologie.* — Other titles are self-explanatory.]

L'idéalisme social. R. BRUGEILLES. Rev. Ph., XXXIV, 8, pp. 150–179.

The vital and necessary element in religion is not this or that body of practices, but the social emphasis, the affirmation that our life is not an end in itself, that we are co-workers, and that the more we realize our solidarity, the more do we become moral. As religion gives a common bent to all persons, the state should endeavor to harmonize the ends of particular positive religions with its own ends. France is actually divided between catholicism and socialism. Catholicism proposes to establish itself politically and settle all questions conformably to its doctrine. Socialism has not yet clearly defined its ideal. A general return to catholicism is neither necessary nor possible, nor is it probable that a new religion will be created. Although the socialist metaphysic threatens to set up the principle of egoism, it may be possible for science and philosophy to formulate a more truly social ideal, latent in socialism itself, and thus to set free the unconscious aspirations of society. Socialism may well emphasize the fact that the universe is nothing but a system of connected and hierarchically subordinated societies, some serving the purposes of others, and that man, in particular, should subordinate his views to those of society. There are two orders of societies, one apparently purely mechanical, deprived of will, composed of atoms, inanimate bodies, such as planets, solar systems and nebulae; the other having will and morality, for example, cellules, living beings, human society. The movements of the individuals of the second series are more accessible to our observation, and for this reason, we attribute will, perhaps unjustly, to this series alone. Matter and mind are two aspects of the same reality. Mind is the matter which thinks, matter is the mind which acts. With respect to the first social series, the solar systems appear to subordinate themselves to the nebulae, and the planets are grouped in subordination to the stars, while planets and stars are composed of associated molecules, which

are, in turn, associations of atoms; and according to the hypothesis of ions and electrons, the atom is a solar system in itself. It would seem that the relations between the individuals in this series are analogous to social relations, the force displayed by the atoms, molecules, etc., being the expression of a will analogous to our own, but greatly inferior in degree. As to the second social series, its elementary individuals, the cellules of living beings, are societies whose constitutive elements are the molecules, which are, in turn, societies belonging to the first social series, so that the second series forms part of the plan pursued by the whole universe. Living beings, and among them, man, are societies of cellules. From this we rise to societies of living beings. In the light of the universal end, the apparent immorality or non-morality of nature disappears. Not death, but perverse will, is to be combated. Morality would consist in the cultivation of a social consciousness, immorality in the individual's recognition of himself as the end. History records many instances where a single thought, a single desire, has animated and closely united the individual consciousnesses. It is the task of idealist socialism to concentrate enthusiasm, to strengthen and unify this social consciousness. For the present, the unification of the social consciousness in the actually existing nations should be pursued. Idealist socialism should aim at a state, such that the individual shall feel national events more strongly than individual events.

J. RAYMOND TUTTLE.

Sur la nature de plaisir. TH. RIBOT. Rev. Ph., XXXIV, 8, pp. 180–192.

The purpose of this article is to show that pleasure is not, on the one hand, the opposite of pain, nor, on the other, a sensation, but a higher form or augmentation of the state of physical and mental health. As applied to psychology, the notion of opposite is inexact and misleading, at best. The fact that pleasure is conceived as merely the opposite of pain is responsible for the meagerness of our psychology of pleasure. In maintaining the theory that pleasure is a sensation, Stumpf regards the agreeable and disagreeable as special sensations forming the group of sensorial feelings. His line of demarcation between these feelings and intellectual processes is agreed to by Titchener, who, however, has a genetic hypothesis for the sensation theory, holding that the affections appear as a mental process of the same kind as sensations, and, under favorable circumstances, would have developed into sensations. Titchener maintains, nevertheless, that, for the adult human mind, a generic difference ought to be established between affection and sensation. Ribot holds pleasure to be a *sign*, indicating that certain tendencies (needs, appetites, inclinations, desires) have been satisfied. Pleasure is a psychic event *sui generis*, simple, indefinable, irreducible, having a threshold of appearance and one of disappearance. It should not be confounded with the neuter state. For pleasure to appear, a tone must be present. No one has spoken of points or nerves of pleasure. This lack of special physiological apparatus indicates that pleasure is a modification of the normal state. Pain is the derogation to the ordinary rule of life. As to the final cause of pleasure, Ribot inclines less to the am-

biguous surplus-energy theory than to that which states that pleasure is due to the free and unimpeded play of organic tendencies.

J. RAYMOND TUTTLE.

La théorie des moyennes. J. LOTTIN. Rev. Néo.-Sc., XVI, 4, pp. 537–569.

This long article intends to explain the theory of the mean and the necessary precautions which we should take in its application. The writer begins with the source of the mean, and says that it has its origin in the original nature of human mind which seeks to unify into a more or less comprehensive synthesis different quantitative impressions. Consequently the notion of the mean is closely connected with another simple notion — that of the contrary. Between two contradictory notions we cannot take the middle, but between two contrary notions we can conceive a mean term. A rational theory of the mean could hardly be established before modern times. Among several mathematicians who worked in this sphere Quételet and Bertillon require special notice. Nothing is simpler than to find the mean by mathematical operation. There are two kinds of means, that is, one taken from the different measures of the same object, and one taken from different objects. Let us begin with the first. Let us take all the measures and arrange in the order of magnitude. The greater difference the measures have from the mean, the smaller they are. In other words they converge around the mean. The convergence may be symmetrical or asymmetrical. The distribution of the measure, if represented graphically, shows the curve of possibility. The explanation of this fact is not difficult. Let us suppose certain causes of errors of measurement. Each of them may or may not work, so that there are two possibilities. We have 1,024 possibilities in total. Most measures must converge around the mean. If the number of observations increase to a great amount, all accidental causes come to be neutralized. Such a mean is called objective by Bertillon.

But there is another kind of mean, which is called subjective by Bertillon. It is taken from different objects. In such case regularity is accidental, while in the objective mean irregularity is rather accidental. The mean of this sort finds an abundant application in statistics, but the elements to which it is applied differ not only qualitatively, but quantitatively as well. Besides, the conditions under which the mean can be valid are very troublesome. According to Cheysson the elements must be comparable to one another or of the same kind. Secondly, if they have different importance, they should not be under the same title. Block requires that we must consider the unity of objects, place and time as exactly as possible. There are two other means which statisticians use to correct the imperfections of the arithmetical mean. The normal mean is the magnitude, in which the number of the series is greatest. The median is the magnitude, below and up to which the numbers are equal with each other. Take an instance from the average stature of the conscripts of Lund taken by Falvuck between 1890 and 1897. In this case the convergency was remarkably regular, yet we cannot ascribe value

to it except as an index. But how was such regularity possible? There may be constant causes and accidental causes. The former will be repeated in different cases, while the latter may be neutralized. Then we can find the typical mean. Since the time of Quételet such regularity has become established; it is exceptional no more. Therefore several writers explain it by referring to the existence of constant causes. There are two points of view in the consideration of the subjective mean. The mean of the phenomena which occur successively, and the mean of the phenomena which occur simultaneously. In the second case the mean cannot be applied to individuals, but only to a part of the group. Here is another short-coming: How can we determine the division of magnitudes, which correspond to the resemblance of individual numbers? No rule can be laid down, but the whole thing must be entirely intrusted to inventive ingenuity. Now let us consider the successive phenomena. Quételet and Faure maintained the possibility of the prediction of future event upon the basis of means taken from the past events. But mean is possibility, not necessity. The tendency to lose confidence in the application of the mean to economical phenomena must be ascribed to the nature of the mean itself, which can express probability only, never necessity. The writer intends to give a descriptive analysis of the sentiment of effort and to point out several mistakes made by many authors. In the respect of the objects, to which effort is directed, it is divided into several kinds. Muscular effort aims at movement of members, and volitional effort tends to will. The object of the volitional effort is to will a good and to avoid an evil, which is naturally difficult and can be realized only by effort. All volitional effort resolves the state of indecision, but all decision does not necessarily resolve effort. Sometimes decision takes place without effort. But if there are two tendencies which combat each other decision becomes effort. Volition begins with difficulty, and effort tends to vanquish the difficulty. Difficulty may arise by the lack in clearness of particular tendencies. Volitional effort presupposes two desires. We call an effort volitional, because the difficult act, realized by effort, is volition. According to James the effort of volition makes us attend to a difficult object and keep it before the mind. Now abstract considerations slip easily from the consciousness. The object of passion and appetite have a more intense impulse, but they are not always directed to the moral perfection of the man. Thus continuous effort is necessary to progress in the right way. The writer puts emphasis upon the distinction of the free decision and the decision of effort. Again, although James separates body from mind sharply, yet at least in the volitional effort the principle of volition and that of execution overlap with each other. Lastly, the writer maintains that the problem of freedom is entirely psychological, in opposition to James, because the solution of this problem must be sought in mind.

T. OKABE.

Identität und Wirklichkeit. A. BERKOWITZ. Arch. f. sys. Ph., XV, 4, pp. 433–439.

Commenting on the growing harmony between philosophy and science, the author takes up for special consideration a recent contribution to the "Philosophie des sciences," namely, Émile Meyerson's book *Idealité et realité*. Meyerson opposes the positivistic system of sciences. The fundamental principle of positivism is uniformity (legality), — a principle to which it endeavors to reduce causality. Meyerson would prove that causality should not be confused with uniformity; and, inasmuch as he regards the latter as insufficient to explain scientific procedure, he thinks that the positivistic system is inadequate. Meyerson regards every scientific law as an ideal constuction. We hypostatize uniformity in nature because, unless we presuppose order in experience, intelligent action becomes impossible. The impulse of self-preservation leads us to postulate uniformity. It is the impulse to knowledge on the other hand, which seeks, not the mere *how*, but the *why* of things, that is, the ground of the causal law, and the principle of sufficient reason. The principle of uniformity, again, treats things as abiding in space, not in time; whereas the causal law puts space and time on the same basis. Meyerson then traces the way in which the principle of causality has become effective in the history of thought. The "equality of antecedent and consequent" is a principle which is neither *a priori* nor *a posteriori*. Meyerson calls it "plausible." The ideal character of time as conceived by modern science, is illustrated by examples from mechanics, chemistry and other physical sciences. In the eleventh chapter of the book, which Berkowitz regards as the most significant, Meyerson discusses naïve realism. He shows the similarity between the procedure of science and the general attitude of naïve realism, with reference to the asserted existence of things that cannot be directly perceived.

R. A. TSANOFF.

Das Problem der Kausalität und der Freiheit. GEORG WENDEL. Ar. f. sys. Ph., XV, 3, pp. 406–426.

Causality signifies that every change is connected by law with one preceding and one following. This involves the idea of necessity as the lawful connection of cause and effect. The difficulty for logicians lies in determining which is the cause and which the effect, one side applying the causal principle only to changes, the other to substances as the original cause. But the former neglects that substantial element, which, in a two-fold regard, lies at the basis of all change in nature — as a material substratum of all phenomena and as natural energy, which persists through all changes of form. Yet, in no case, is it easy to determine which is the original cause, the effecting force or the circumstances releasing such a force. The idea of the primal cause divides itself into three components, which occur in every event in nature: The unchangeableness of natural force; the persistence of matter; the circumstances appertaining to the cause. The idea of effect is the change of an object

called forth under like conditions, which has another change for a result. The causal relation involves the lawful relations of cause and effect, the causal nexus as an infinite regress, lack of temporal co-existence of cause and effect, and the causal principle as applicable to changeable things. Kant limited the validity of the causal law to possible experience, but there it is unbounded. The causal principle is the condition of the possibility of experience. Freedom, the opposite of causality, is identical with the idea of lawlessness. The indeterminist seeks a new meaning for freedom of the will and, instead of 'lack of causality,' substitutes a selective ability (*anderskönnen*). Yet this ability does not suppose freedom, for selected action can be based on a cause. Again, the idea of free will is defined as a determination of aim and resolve; but if in any way determined, the absolute validity of the causal law is assumed. Freedom in the physical world seems impossible, for it would do away with the causal principle, consequently with every scientific deduction, and would reduce all events in nature to miracles. To maintain that the two are united by arguing that the decisions of the will are settled on one hand by the efficient cause, on the other by an especial power of willing, is again to do away with the cause. If the will is the cause of itself, cause and its related idea, the effect, are destroyed and human actions rendered impossible. There are but two divisions of the psychological process, thought and feeling. The will is a product of the two. An original consciousness of freedom is not universal and the real cause for the decisions of the will can be known. Indeterminism is refuted by the impossibility of freedom and by the impossibility of the will as the cause of itself. The author refutes the arguments in Kohler's article concerning his book, *Criminal Types in Shakespeare*, and reasserts the contradiction of freewill and causality, also the absurdity of the will as the cause of itself. The assertion that our interest in the hero of the drama would decline, if his actions were determined, lacks sufficient reason, for a strong, psychological causation has ever been the chief demand of the drama.

E. C. STEPHENSON.

La perfection de Dieu d'après Duns Scot. S. BELMOND. Rev. de Ph., IX, 10, pp. 353–373.

In a previous article the author has shown that, according to Duns Scotus, God is transcendent to the categories of being without excluding a certain univocation of the notion of being. Neither God nor his creatures can be relegated to the category of non-being. Duns Scotus, like Saint Thomas, attempts to answer three questions, namely: — Is God perfect? Does he include the perfections of his creatures? And, In what does he resemble them? The scholastics defined the perfect as that which lacked nothing. God is absolute simplicity, possessing in an infinite degree all the good qualities conceivable. God must possess all the perfections of creatures or he would lack something. He has in common with them those attributes whose concepts are not attached to limitation, such as, life, liberty, and intelligence. And secondly, He has perfections evidently connected with limitation, as figure, dimension, etc., in

so far as He is the cause of all limited predicates. God is neither hard nor limited, yet all these things come from him. If an attribute can be applied to the infinite being it nevertheless transcends the created quality of the same name. This is why it is impossible to establish a parallelism between the life of God and the life of creatures. Beyond the initial univocation, ignorance is the only reasonable attitude to take regarding the divine being. In what, then, does God resemble creatures? He includes the concept of being and the simple attributes of the creatures. Duns Scotus, however, would make no real univocation, but a strictly logical one. He expressly says that God and the creature are one in conception but not in reality. In the abstract life, that is, in life apart from all living beings, there is univocation of concept, but in the concrete, that is, real life, our minds are shrouded in mystery and we can know nothing of the divine. God and his creatures are separated by an infinite distance and God's attributes cannot be known by analogy, yet Duns Scotus has no intention of denying univocation. If we oppose being to non-being they are absolutely different, but such is not the relation between God and the creature. Neither one nor the other is non-being. Scotus sees no shadow of contradiction in asserting logical univocation and real transcendence at the same time. His univocation is strictly a logical order and contains nothing concrete; yet God in his transcendent reality infinitely surpasses the creature. He is a transcendent being but further than this our knowledge cannot go.

HARVEY G. TOWNSEND.

Plato als politisch-pädagogischer Denker. R. STÜBE. Ar. f. G. Ph., XVI, 1, pp. 53–88.

Plato, writes Professor Stübe, is one of the really kingly spirits of the human race. There is every indication of such marvelous growth and development in his genius during his life-time that it is not easy to grasp the thought content of his rich life through the means of historical investigation. Primarily, it must be observed, that Plato, even in his most abstract philosophical thinking, manifests the most lively interest in the practical problems of life. Without an appreciation of the world of his day, Plato cannot possibly be understood. But secondly, it must be noticed that he advanced immeasurably beyond his own time. He became the creator of a radically new philosophy of life in becoming the discoverer of an immaterial world. Thirdly, he seeks very definitely to coördinate all the thought of his life into a unified view of the world, and it is in this systematization that Plato becomes eminent as a creative philosopher.

It is interesting to trace the development of Plato's thought along political-pedagogical lines, as indicated in the dialogues. Even in his earliest writings, he insists that teachers take an interest in philosophical and scientific education which seeks a notion of things in their real nature; and under this assumption, at the conclusion of the 'Phædrus,' he advocates rhetoric. Nevertheless, particularly in the 'Gorgias,' we find him directing a polemic against rhetoric

in so far as it inculcates argument for its own sake, and bears only the appearance of knowledge. Plato strives for an idea of the good which shall overcome the relativism of the 'Protagoras.' This he does not find in the ornamental arts which afford merely the sensationally agreeable; only in the true τέχνη πολιτική is found that which has universal good for its aim. The striving after a unified, philosophical position and also after a just evaluation of the realities of life converge in the 'Meno.' In his theory of the ideas and in his conception of the ideal state, Plato has sought to unite the two. We have in 'the Republic,' a picture of a Utopian community, but also a Staatsgebilde, whose peculiar purpose is to be an earthly realization of the idea theory. The philosophers are rulers of this state, which Plato considers a perfectly attainable ideal. Education has here the task of leading through a progressive development to the highest aim of all culture — to a knowledge of the good. In μουσική and γυμναστική is found the preliminary discipline, which should extend to the twentieth year. The aim of education is to make possible a selection of leading natures. Whoever, after a complete education of fifteen years, has stood the test in life, shall then in his fiftieth year be called to assume an office of power. These model conditions both in politics and education, Plato considers as not only attainable but necessary. He strongly favors the ethical code of Sparta in so far as it subordinates the individual to the interests of the state. What he has experienced in his environment and in his own inner life, determines him to replace the individualistic ascendency of the personal will by the authority of the philosophical state, deeply rooted in the knowledge of common truth.

As already intimated, Plato's philosophy is, in its historical development as well as in its content, essentially ethical. Each man is to strive for the firm possession of the good — but the good is that which produces happiness — and so there follows from the knowledge of the highest good at the same time the knowledge of true happiness and true morality. As for public ethics, the political organization has the welfare of the whole for its aim, and the happiness of the state is sought in the realization of its highest principle, namely, justice. The higher reality of the eternal ideas, and the outer world as a realm for the representation of the highest good, are united through the power of love resting in the soul of man. The highest good is alike the eternal reason and the final cause — in fact the idea of the good is the idea of God. Finally then, it is by no means fulsome praise to laud Plato as the prophet of European culture. He demanded that his state should be a training-school for eternal life. With this aim in view, he shed light upon political tendencies and educational aims far beyond his own age, and many a political-social thought of Plato's, freed from its speculative envelopment, has proved the guide of later statesmanship.

GEORGE T. COLMAN.

Der Gegenstand der Erkenntnis. P. SCHWARTZKOPFF. Ar. f. sys. Ph., XV, 4, pp. 485–522.

The question of the object of knowledge, in its present form, is Kantian in character, and is of central importance in epistemology; its answer involves

the possibility or impossibility of a metaphysic. Kant first showed conclusively the necessity of distinguishing between the thing-in-itself and its subjective phenomenon. For the thing-in-itself can appear not as it is in itself, but as it is for us. The particular theory which Schwartzkopff takes up for special examination is that of Bullaty. Bullaty asserts that there is knowledge without a knower or a known: a notion similar to that of motion without a mover and a moved. Bullaty sets Thought over against perception and the external world. In order that there may be knowledge of the external world, thought must apply to the sense-world its essential characteristics of objectivity and externality. In general, Bullaty regards objectivity and externality as nonexistent in reality, that they are rather but immanent moments of the true presuppositionless knowledge. Schwartzkopff thinks that such complete independence of thought from the given actuality not only does not assure us of presuppositionless knowledge, but, on the contrary, makes all knowledge impossible. Unfortunately, Bullaty does not define exactly either Thought or Intuition (*Anschauung*). Yet his general notion of thought is that of reflective thought, and he makes little distinction between intuition and sensation (*Empfindung*) and sense-perception — (*Wahrnehmung*). He makes no distinction between the subject, the object, and the act of intuition, and uses the one term *Anschauung* to embrace them all. This introduces a confusion. For, whereas intuition and thought are not identical, the intuiting and the thinking subject are one. In this oversharp antithesis of thought and intuition lies the basis of Bullaty's error. In opposition to his theory, Schwartzkopff maintains the following three theses: (1) There is no intuition without thought. Thought, rather, makes intuitions out of sensations. Kant, having separated thought from intuition, sought to join them together by means of the schemata. But Bullaty carries Kant's initial error to the extreme. Sensation, Schwartzkopff holds, can become a sense-*world* only by becoming systematized. Isolated visual sensations can never yield us a world. Thought it is that transforms these sense-excitations into perceptions, ideas. Intuition without thought is meaningless. Conversely, however, thought can just as little dispense with intuition. And this is the writer's second thesis: Objectivity and externality are not 'immanent moments' of thought, but are rather grounded in the thing-in-itself. Kant grounded the objectivity of the sensations, their coherence, in the unity of the organizing subject, the transcendental unity of apperception. Schwartzkopff, on the other hand, finds the unitary subjective comprehension in the '*dingliche Zusammengehörigkeit.*' Elaborating this idea, Schwartzkopff holds that thought in its ultimate origin shows itself to be an experience of itself in relation to an Alter as such, a feeling of objectivity, or an immediate consciousness of an external being. Thus, it is not 'consciousness,' as Kant and Bullaty would have it, that mediates objectivity and externality, but the objectively directed *Lebensgefühl*, thought on its lowest level. Schwartzkopff criticises Bullaty's attempt to regard objectivity and externality as presuppositions of irrefutable theoretical validity, analogous to the apodictic mathematical principles. It is not knowledge

which gives the sense-world its objective validity; the actual existence of an external world first makes knowledge capable of real objectivity. Thought and perception are united anew, as the elements forming knowledge. The third thesis of Schwartzkopff is this: Knowledge is finally the result of a 'thinking through' of the intuition of perception. He holds to a parallelism of differences of the inner and outer: audition differs from vision — corresponding to the difference of air-waves and ether-waves. In his résumé Schwartzkopff summarizes what he regards as Bullaty's chief errors.

R. A. TSANOFF.

The Natural History of Experience. C. LLOYD MORGAN. Br. J. Ps., III, 1 and 2, pp. 1–20.

If we are to accept the conclusions of Professor Morgan, psychology has now come emphatically forward as a defender of the Humian doctrine of the self, not to be sure as defined metaphysically, but as the workable and satisfactory hypothesis in scientific study. "It cannot be too roundly asserted that for psychology as a science, the mind is *not* an active agent or producing cause." Metaphysical conceptions must not be allowed to vitiate the description of mental processes as purely a series of happenings, concerning which generalizations may be drawn. Psycho-physical processes are regarded as continuous with other physiological processes, which in turn are continuous with physical causes and effects in the environment. Within this continuous process, there is discoverable no leakage of energy and no influx of energy. Whether or not *all* organic processes are psycho-physical (panpsychism), is not a question whose solution is of value in scientific interpretation, although our author expresses himself as provisionally inclined to accept this view as a speculative creed. It is assumed then that, for purposes of scientific treatment and apart from the unverifiable creed of panpsychism, there is no direct psychical continuity between the mind of parent and the mind of offspring. What then is the genesis of experience? It must be supposed to originate in a group of instinctive responses, which occur in harmony with such racial preparation as is the outcome of natural selection and organic evolution. The first impression in an individual organism is not possessed — there is no previously gotten experience to possess it and it simply comes into being. If the question be asked by what principle or cause the impressions received become related, science replies, "We don't know. We just accept the fact within our ideal construction." In conclusion, the hypothesis is presented that the empirical ego and the metaphysical ego are but two aspects of every individual organism — that not only is every being a center of determinate processes, but that it is also a center of determining agency. But in the course of psychological study, no such metaphysical assumption as this must be allowed to interfere.

GEORGE T. COLMAN.

Studies from the Psychological Laboratory of the University of Chicago: The Autokinetic Sensation. HARVEY A. CARR. Psych. Rev., XVII, 1, pp. 42–75.

The contents of this article are taken from a doctorate thesis and comprise only the results which throw new light upon the subject. Four observers were used to study the "illusory movement presented by a small light of weak intensity, when fixated in a dark room." The results of the experiment refute the integration theory, "that the effective principle is the consequent retinal shiftings of the stimulus, which awaken the sense of motion, and which are combined into a continuous whole." Such eye movements are not the most important factor, as is shown by the experiments on the oscillation of the light and on negative after-images. Large eye movements are not effective; why should small ones be? Results show that "steadiness of fixation favors the velocity and uniformity of the illusory motion, that the retinal shiftings due to involuntary rotations are to be regarded as disturbing elements, and that integration does not occur." The experiments reveal four effective, explanatory factors, influential in determining the direction, velocity, and continuity of the illusory movements: "(1) the position of the eye in the socket; (2) the after-effects of the eye-position; (3) motor strains as exemplified in the tests on voluntary control; and (4) the after-effects of such strains." "The after-effects of (2) and (4) must be resident in the neuro-muscular mechanism." The first and third factors are similar "in that they both involve effort and strain, the light moves in the direction of the strain, and the illusory effect varies in direct proportion to the degree of strain involved." The one principle explaining the four factors is "that the autokinetic illusion is mainly determined by the changing neuro-muscular conditions involved in continuous fixation." If the eyes are fixed in a constrained position, "they are invariably forced back to the center of the field." There are three types of illusion: "(1) The point of fixation remains with the light and participates in the illusory movement. (2) The point of fixation apparently remains stationary and the light moves away from it in some direction. (3) A combination of these two types occurs." The first type of illusion can be accounted for only on the basis of unusual conditions of the eye-body relation, for the eyes are the only means of connection between the visual object and bodily space. In the second type, the fundamental fact is the apparent lack of motion of the fixation point, for, as a matter of fact, it does move, since the eyes were observed to move. The cause is again disturbed eye-body relation. Of the four factors determining spatial location in ordinary perception, all but ocular attitudes in relation to body have been removed by the use of dark-room and head-rest. By strain, due to fixation and eye-position, the eye-body relation is disturbed, so that the "meaning of the ocular adjustment" changes, the "idea of relation" is altered, or "it is one's visual space world which, in reality, moves."

G. W. PORTER.

Mes souvenirs affectifs d'enfant. L. DUGAS. Rev. Ph., XXXIV, 11, pp. 504–516.

The author explains the nature of affective memory from his own experience. He cites examples from his childhood recollections, showing that these refer only to important pleasures or pains, not visual images. They represent what he has experienced at passing and disconnected moments, often things of minor importance, neglecting those of great value. The defect of such a memory lies in the fact that those years most complete with calm happiness and serious, steady work are the ones represented most inadequately. Memory brings back the life of the past, but it is also to verify the past. There are two affective memories, dissimilar in nature; the one has as its objects the deep and durable feelings, the passions, and does not yield its secrets voluntarily; the other, which refers to the superficial, momentary feelings, the emotions, is always ready to disclose itself. When one speaks of the affective memory, he must designate to which kind he refers.

E. C. STEPHENSON.

The Philosophical Attitude. W. R. SORLEY. Int. J. E., XX, 2, pp. 152–168.

Plato held that truth is not imposed on the mind from without, but is reason made manifest, so that the philosopher, in his speculative activity, is simply seeking to realize his own inmost nature. Bacon regarded truth as the mirroring of an external order of nature, in which case the mind is not creative but merely receptive. Descartes's conceptions have led to the doctrine that truth is a matter that must compel individual assent. They all fail to make clear exactly what distinguishes the attitude of the philosopher from that of the scientist. The philosopher must strive for a conception in which the results of the special sciences are interpreted in the interests of the whole of knowledge. Were human interests merely intellectual, then "the methods which enable us to pass from lower to higher, within the field of scientific generalization, would seem to require no fundamental change when we pass to the final generalization which expresses our intellectual attitude to the world as a whole." Man, however, regards experience also from the standpoint of worth or value, and we need a general theory which brings the results of the special sciences of value into organic relation. This is as much a problem of philosophy as is the interpretation of the world of fact. While not necessarily independent of the system of reality, the world of values is yet different from it and must not be confused with it. Naturalism fails in its attempt to reduce values to facts; first, because of the impossibility of explaining casually the unique and insistent element of value which is manifested in every judgment of goodness or of beauty; secondly, if truth is only a short-hand expression for biological survival value, as naturalism maintains, reason is itself a mere instrument in the service of the value of life-preservation. The opposite view, that the truth of every proposition about existence consists in the value it contributes to life, must refer to an objective value, if it would avoid the shallow relativism of subjectivism. But granting this, it is nevertheless

true that the whole significance of life rests on the disparity between the present actualities of things and the values which may possibly be realized in and through them. "If fact and value can be identified at all, it cannot be the fact of the moment or a particular fact or class of facts; reality must be fully realized before its nature can be equalized with our idea of value." The philosopher must guard against the temptation to find in that which is the ground of that which ought to be, or in that which ought to be, the ground of that which is. The nature of reality and the meaning of worth must equally appeal to him.

EDWARD L. SCHAUB.

The Ethical Aspect of the New Theology. J. H. MUIRHEAD. Int. J. E., XX, 2, pp. 129–140.

The New Theology is indicative of the modern spirit in general. "What appears in the literature as the breaking of the barriers between man and nature, appears in politics as the breaking of the barriers between man and man, in religion, of the barriers between man and God." The doctrine of immanence, in some form or other, is one that no religion can be without. We must look for the revelation of God, not in any particular facts of nature or of history, but in the constitution of the entire world order and in history as a whole. But does not the fact of human freedom and the distinction between good and evil seem to require rather the view of a God who is above and, in a sense, outside his creatures? New Theology has not clearly indicated how the truth of the doctrine of transcendence is to be brought into harmony with its own doctrine of immanence. Each doctrine, stated antithetically, is unsatisfactory. "Extremes meet, and to believe in a God whose nature is nowhere expressed as an organic part of the world of our ordinary experience, is to empty it of any principle of moral judgment or ground of moral choice as effectually as to believe in a complete and undifferentiating immanence." The theory of evolution, in its wider significance, presents a solution of this difficulty which, in essence, is similar to that of Plato, Aristotle, and Dante. "To live is to seek to embody in actual reality what previously was a mere potentiality or need." A creature is what it is, because it seeks to be what it not yet is, and this it does just because it has already realized itself in so far as to be what it is. This principle has its clearest and most cogent applicability in the facts of conscious life. From whatever side it be considered, whether of knowledge, conduct, or production it is a purposeful direction by ideas of that which is not yet, but which it desires shall be. These ideals of truth, beauty, and goodness are ends which lie ever beyond us, and yet they are in us, not merely as ideas in consciousness but as the dynamic principles which have made us what we actually are. The ideal is in the world just because it is above it. This principle of the necessary and organic relation of the ideal to the real allows us to conserve the truth both of the transcendence and of the immanence doctrines. Sin may be regarded as the contradiction between the real and the ideal which constitutes its truth and essence.

EDWARD L. SCHAUB.

NOTES.

The eleventh annual meeting of the Western Philosophical Association was held at the University of Iowa, on March 25 and 26, in conjunction with the North Central Section of the American Psychological Association. The address of the President, Professor Carl E. Seashore, was entitled "The Rôle of Play in Religion."

Dr. Borden P. Bowne, Professor of Philosophy at Boston University since 1876, died suddenly at his home on April 1st. Professor Bowne was sixty-three years of age. He was well known to a large circle through his books and his contributions to philosophical and theological journals. Among his more important works are: *Metaphysics*, 1882, revised ed., 1898; *Introduction to Psychological Theory*, 1887; *Philosophy of Theism*, 1887; *The Principles of Ethics*, 1892; *Theory of Thought and Knowledge*, 1897; *Theism*, 1902.

Professor Émile Bontroux, of the University of Paris, as Hyde Lecturer at Harvard University, delivered a series of eight lectures on "Contingence et Liberté."

Dr. Walter T. Marvin, of Princeton University, has been appointed Professor of Mental Philosophy and Logic at Rutgers College.

Professor Hugo Münsterberg will next year lecture as exchange Professor at the University of Berlin.

Professor A. S. Pringle-Pattison, of Edinburgh, has been appointed Gifford Lecturer at the University of Aberdeen for 1912–13.

Dr. R. M. Ogden has been promoted to a professorship of philosophy and psychology at the University of Tennessee.

During the academic year 1910–11 the editor of this REVIEW has been granted sabbatic leave from his university duties. His work will be carried on by Professor George H. Sabine, of Stanford University.

Professor Friedrich Jodl, of Vienna, has been called to Leipzig, as successor to the late Professor Max Heinze.

We give below a list of the articles, etc., in the current philosophical periodicals:

THE INTERNATIONAL JOURNAL OF ETHICS, XX, 3: *Josiah Royce*, The Reality of the Temporal; *R. G. Bury*, The Ethics of Plato; *C. R. Henderson*, Ethical Problems of Prison Science; *W. J. Roberts*, The Appeal to Nature in Morals and Politics; *C. A. Ellwood*, The Sociological Basis of Ethics; *J. W. Scott*, Post-Kantian Idealism and the Question of Moral Responsibility; *F. C. Sharp and M. C. Otto*, A Study of the Popular Attitude towards Reributive Punishment; Book Reviews.

THE PSYCHOLOGICAL REVIEW, XVII, 1: *John A. Bergström*, Pendulum Chronoscopes and Accessories for Psychological Experimentation; *Daniel Starch*, Mental Processes and Concomitant Galvanometric Changes; *Helen T. Woolley*, The Development of Right-Handedness in a Normal Infant; *Harvey A. Carr*, Studies from the Psychological Laboratory of the University of Chicago; Editorial Announcement.

XVII, 2: *C. H. Judd*, Evolution and Consciousness; *Boris Sidis*, The Nature and Causation of Galvanic Phenomenon; *W. D. Scott*, Personal Differences in Suggestibility.

THE PSYCHOLOGICAL BULLETIN, VII, 1: *E. F. Buchner*, Psychological Progress in 1909; *E. J. Swift*, Relearning a Skillful Act; *Daniel Starch*, A Demonstration of the Trial and Error Method of Learning; Psychological Literature; Discussion; Books Received; Notes and News.

VII, 2: *A. H. Pierce*, Proceedings of the American Psychological Association; *E. F. Buchner*, Proceedings of the Southern Society for Philosophy and Psychology; Notes and News; Announcement.

VII, 3: *David S. Hill and Mrs. Hill*, The Loss and Recovery of Consciousness under Anesthesia; *Winifred Smith*, Comedy and the Comic Experience; Psychological Literature; Books Received.

THE JOURNAL OF PHILOSOPHY, PSYCHOLOGY, AND SCIENTIFIC METHODS, VII, 3: *V. N. Dearborn*, Notes on the Discernment of Likeness and Unlikeness; *W. H. Kilpatrick*, A Phase of the Problem of Contingency; *Arthur Dewing*, Chance as a Category of Science; Reviews and Abstracts of Literature; Journals and New Books; Notes and News.

VII, 4: *William James*, A Suggestion about Mysticism; *Walter B. Pitkin*, Some Neglected Paradoxes of Visual Space, III; *A. O. Lovejoy*, The Treatment of "Opposition" in Formal Logic; Reviews and Abstracts of Literature; Journals and New Books; Notes and News.

VII, 5: *R. M. Yerkes*, Psychology in its Relations to Biology; *H. C. Goddard*, Literature and the "New" Philosophy; *A. O. Lovejoy*, A Note; Reviews and Abstracts of Literature; Journals and New Books; Notes and News.

VII, 6: *W. P. Montague*, A Pluralistic Universe and the Logic of Irrationalism; *Max Eastman*, To Reconsider the Association of Ideas; Egoism, Altruism, Catholism; *W. E. Hocking*, Analogy and Scientific Method in Philosophy; Reviews and Abstracts of Literature; Journals and New Books; Notes and News.

VII, 7: *John Dewey*, Valid Knowledge and the "Subjectivity of Experience"; *George H. Mead*, What Social Objects must Psychology Presuppose; *E. B. Titchener*, Attention as Sensory Clearness; Discussion; Societies; Reviews and Abstracts of Literature; Journals and New Books.

ARCHIV FÜR SYSTEMATISCHE PHILOSOPHIE, XVI, 1: *Oskar Prochnow*, Die Ideenlehre in modernen Gewande; *Georg Wendel*, Ethische Betrachtungen; *Emil Raff*, Zur Wissenschaft des Spinozismus; *Viktor Stern-Wien*, Die Philos-

ophie meines Vaters; *L. M. Billia*, Les quatre règles inexactes du syllogisme; *L. Pohorilles*, Die Psychogenesis der Philosophie und der Erkenntniswert der Mystik; *G. Kühl-Classen*, Das Problem der Form in der Ethik; *H. Romundt-Dresden-Plauen*, Kant und Wundt über Metaphysik; *Otto Neurath-Wien*, Definitionsgleichheit und symbolische Gleichheit.

ZEITSCHRIFT FÜR PSYCHOLOGIE, LV, 1 u. 2: *C. Stumpf*, Beobachtungen über Kombinationstöne; Literaturbericht.

LV, 3: *Karl Groos*, Untersuchungen über den Aufbau der Systeme, III; Literaturbericht.

LV, 4: *Anton Marty*, Ueber Begriff und Methode der allgemeinen Grammatik und Sprachphilosophie; *R. v. Sterneck*, Ueber wahre und scheinbare monokulare Sehrichtungen; *R. Hennig*, Bemerkungen zu einem Fall von abnormen Gedächtnis; Literaturbericht.

REVUE PHILOSOPHIQUE, XXXV, 2: *F. Paulhan*, La logique de la contradiction; *A. Marro*, L'automatisme dans la criminalité; *A. Marceron*, L'art de l'éducation; Analyses et comptes rendus.

XXXV, 3: *A. Chiappelli*, Les tendances vives de la philosophie contemporaine; *F. le Dantec*, Les phénomènes que commencent; *F. Paulhan*, La logique de la contradiction; Revue critique; Analyses et comptes rendus.

REVUE DE PHILOSOPHIE, X, 2: *H. Taudière*, Des droits en concours dans l' œuvre de l' éducation; *R. Jeannière*, Un réalistepeut-il étre pragmatiste?; *Pierre Charles*, Le réalisme Kantien d'apres M. Aloïs Riehl; *A. Véronnet*, L' atome nécessaire; *Paul Charles*, Étude sur les théories de la connaissance, II; Analyses et Comptes rendus.